

CMAT 2021 Slot 2

Quantitative Techniques and Data Interpretation

1. Given: Anuj takes 1 day to complete a job. Bharat takes twice the time as Anuj to complete the same job. Chetan takes twice the time as Bharat to complete that job. Dhiraj takes twice the time as Chetan to complete that job.

- (A) Chetan and Dhiraj will take $\frac{8}{3}$ days to complete the work
- (B) The second fastest pair to complete the work is Anuj and Dhiraj
- (C) The second slowest pair to complete the work is Bharat and Dhiraj
- (D) Bharat and Dhiraj will take $\frac{4}{3}$ days to complete the work

- A (A), (B) and (C) only
- B (A) and (D) only
- C (A) and (C) only
- D (A) only

2. How many ten-digit numbers can be formed using all the digits of 2435753228 such that odd digits appear only in even places?

- A $2!3!5!$
- B $(5!)^2$
- C $\frac{(5!)^2}{3!}$
- D $\frac{(5!)^2}{3!(2!)^2}$

3. Given below are two statements

Statement I : $(543)_6$ is equivalent to $(317)_8$

Statement II : The last 4 bits in the binary representation of a multiple of 16 is 1000.

In light of the above statements, choose the correct answer from the options given below

- A Both Statement I and Statement II are true
- B Both Statement I and Statement II are false
- C Statement I is true but Statement II is false
- D Statement I is false but Statement II is true

4. During the next year, the probability that a Company A releases a mobile is 0.7. The probability that mobile is a success. given that it is released by the Company is 0.8. The probability that a mobile is a success and released by a Company B is 0.28. A mobile released by either Company A or Company B during the next one year is a success. Find the probability that it is released by Company A.

- A $\frac{1}{3}$
- B $\frac{1}{2}$
- C $\frac{2}{3}$
- D $\frac{3}{4}$

5. If a is $\frac{3}{2}$ times of b, b is $\frac{3}{4}$ th of c and d is $\frac{1}{4}$ th of c, the ratio of a and d is

A 8:3

B 9:1

C 8:1

D 9:2

6. Pipe X can fill a tank in 12 hours and pipe Y can empty the tank in 18 hours. Both pipes are opened at 8 am and after some time Y is closed, and the tank is full at 10 pm on the same day. At what time was pipe Y closed?

A 1 pm

B 10 am

C 11 am

D 12 noon

7. The price of an apple is twice that of an orange. The price of an orange is thrice that of a banana. If the price of an apple increases by 10%, price of an orange increases by 30% and the price of a banana increases by 20%. Find the percentage increase in the price of 20 apples, 20 oranges and 20 bananas.

- A 19%
- B 17%
- C 15%
- D 13%

8. The difference between the compound interest and simple interest for two years on a certain sum at a certain rate of interest is Rs. 64. The compound interest for two years is Rs. 704. The principal is

- A 800
- B 1600
- C 2400

D 3200

9. A vessel has 500 litres of milk. 50 litres of milk is replaced with 50 litres of water in this vessel. If this operation is repeated another 2 more times, what is the percentage of milk in the vessel at the end?

A 70.0

B 72.9

C 80.0

D 81.0

10. A started a business with Rs. 50000. After three months, B joins with an investment of Rs. 60000 and A withdraws Rs. 10000 out of his capital. Three months later, B brought in Rs. 20000 more. At the end of the year, what should be the ratio in which they A and B share the profits?

A 22:15

B 13:22

C 17:22

D 15:22

11. In a company there are 252 engineers, in which the ratio of the number of electronics engineers and computer engineers is 2 : 1. The ratio of the number of electronics engineers and computer engineers becomes 1:1 after recruitment of some more computer engineers. The average age of all the engineers is now 22 years and the average age of the computer engineers is 2 years less than the average age of electronics engineers.

- (A) The average age (in years) of electronics engineers is 21
- (B) The average age (in years) of computer engineers is 21
- (C) The average age (in years) of electronics engineers is 23
- (D) The average age (in years) of electronics engineers is 25
- (E) The average age (in years) of computer engineers is 23

Choose the correct answer from the options given below:

- A** (A) and (E) only
- B** (B) and (C) only
- C** (D) and (E) only
- D** (E) only

12. In triangle PQR. PS is perpendicular to QR and S divides QR in the ratio of 3 : 1 internally. If PQ=21 and PR =9,find QR.

A $18\sqrt{5}$

B $16\sqrt{5}$

C $15\sqrt{5}$

D $12\sqrt{5}$

13. In a 1000 metre race, Rahul reaches the finishing line 5 seconds before than Raj and beats Raj by 50 metre. What is Rahul's speed (in m/s)?

A $11\frac{9}{19}$

B $9\frac{9}{19}$

C $10\frac{10}{19}$

D $9\frac{10}{19}$

14. A shopkeeper claims to sell rice at cost price. He uses a false weight with the intention of selling rice at 25% profit. After selling Rice to a customer, he realizes that the customer has paid 10% less than what he should have paid. What is the actual profit percentage made by the shopkeeper?

- A** 6.25%
- B** 10%
- C** 12.5%
- D** 15%

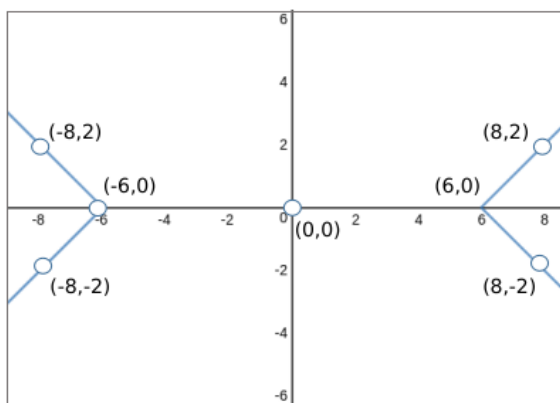
15. Meera and Sarika attempted to solve a quadratic equation in x . Sarika made a mistake in reading the coefficient of x and obtained the roots as 12 and 16. Meera made a mistake in reading the constant term of the equation. She obtained the roots as -22 and -6. The correct root(s) is (are) :

- (A) -16
- (B) -12
- (C) 12
- (D) 16

Choose the correct answer from the options given below:

- A** (A) and (B) only
- B** (A) and (C) only
- C** (C) and (D) only
- D** (B) and (D) only

16. Which of the following equations best describes the graph given below?



- A $|x + y| - |x - y| = 6$
- B $|x - y| + |x + y| = 10$
- C $|x| - |y| = 6$
- D $|x + y| - |x - y| = 0$

17. In a company, the average salary of the boys is Rs. 50000. The average salary of all the employees is Rs. 48000. There are 80 boys in the company and the average salary of the girl is Rs. 40000. What is the number of girls working in the company?

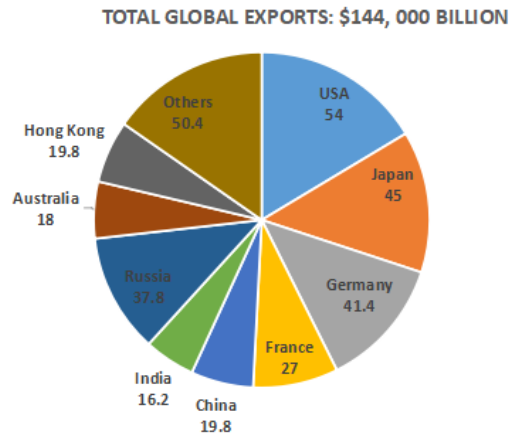
- A 12
- B 15
- C 20
- D 24

18. A roller is 4m long and has a diameter of 0.7m. It takes exactly 2000 rotations of the roller to level a road. If the cost of using the roller is Rs.4 per square metres, then the total cost of levelling the road is :
Assume, $\pi = \frac{22}{7}$

- A** Rs.17600
- B** Rs.35200
- C** Rs.70400
- D** Rs.140800

Instructions [19 - 22]

Study the pie chart and answer the questions that follow:



Note : The value of exports represents the angle corresponding to each country in the pie chart.

19. The ratio of the value of exports between the total exports of USA and Japan to the total exports of Australia and France is

- A 5:9
- B 9:5
- C 11:5
- D 5:11

20. What is number of countries whose exports are more than the average exports per country?
(Assume 'Others' as a single country)

- A 4
- B 5
- C 6
- D 7

21. By how much does the value of the exports of Japan exceed that of Australia?

- A \$ 10800 billion
- B \$ 21600 billion
- C \$ 38880 billion
- D \$ 49680 billion

22. What is value of total exports of USA and France as a percentage of the total exports of Japan, China, Russia and Hongkong?

- A 64.9764
- B 65.5764

C 66.1574

D 66.1764

23. The minimum value of $\frac{3(6+x)(x+12)}{2(4+x)}$, Where $x > -4$ is

A 18

B 27

C 36

D 45

24. Let $g(x) + g(\frac{1}{x}) = 1 + 3x$. Find the value of $g(3)$.

A -4

B $-\frac{1}{2}$

C $\frac{1}{2}$

D 3

25. Find the sum of the following series (with infinite terms):

$$2\sqrt{2}, \frac{4}{\sqrt{3}}, \frac{4\sqrt{2}}{3}, \dots$$

A $2\sqrt{3}(\sqrt{3} + \sqrt{2})$

B $2\sqrt{3}(\sqrt{3} - \sqrt{2})$

C $2\sqrt{6}(\sqrt{3} + \sqrt{2})$

D $2\sqrt{6}(\sqrt{3} - \sqrt{2})$

Logical Reasoning

26. In a certain language

ABCD is coded as CABF

FGHI is coded as HFGK

UVWkX is coded as WUVZ

How is KLMN coded?

A KLMP

B MKLP

C MNOP

D MNPO

27. If A # B is the mother of A

A \$ B means A is the father of B

A % B means A is sister of B

A * B means A is the son of B

A @ B means A is brother of B and

A ! B means A is the daughter of B

In the expression P\$Q#R@S, how is R related to P?

A Grandson

B Great Grandson

C Son

D Daughter

28. Find the next character sequence in the series

FAC, ICF, LEI, OGL, RIO....

- A** UNR
- B** ULS
- C** TKR
- D** UKR

29. The question below consists of a main statement followed by four options. Select the one that logically follows the main statement

The slip fielder can catch a ball, only if the batsman is brought to the front foot and he tries to hit the ball

- A** The batsman is brought to the front foot. hence the slip fielder cannot catch the ball
- B** The batsman did not try to hit the ball. hence the slip fielder cannot catch the ball
- C** The fielder caught the ball, means that the batsman was brought to the front foot and he did not try to hit the ball
- D** All the above

30. In the following questions find out the alternative which will replace the question mark.

CHICKEN : CHICK :: PIG: ?

- A** Lamb
- B** Piglet
- C** Foal
- D** Cub

31. Find the next number in the series

210, 195, 175, 150, 120, ?

- A** 85
- B** 95
- C** 80
- D** 100

32. P, Q, R, S, T, U, V, W are sitting in a row facing north

- (A) P is fourth to right of T
- (B) S is fourth to the left of Q
- (C) R and U, which are both at the ends are neighbours of Q and T respectively
- (D) W is immediate left of P and P is neighbour of Q

Who are the immediate neighbours of W?

- A** Q and V
- B** V and R
- C** V and P
- D** U and P

33. P, Q, R, S, T, U, V and W are sitting round the circle and are facing the centre: P is second to the right of T who is the neighbour of R and V. S is not the neighbour of P. V is the neighbour of U. Q is not between S and W. W is not between U and S. U is the right of S.

Who is sitting adjacent to V?

- A** U and T
- B** U and R
- C** T and P
- D** W and P

34. Three out of four are alike in a particular pattern and hence form a group. Find which does not belong to the group

2835, 5671, 8505, 11344

- A** 8505
- B** 5671
- C** 11344
- D** 2835

35. Below two pairs of numbers are given. But one number in the second pair is missing. Identify the relationship between the two numbers in first pair and find the second number of the second pair such that it follows the same relationship as that of first pair.

7 : 77 :: 14 :

- A** 196
- B** 252
- C** 98
- D** 232

36. How many pages of the book Ram read on Monday. The book was read completely by Tuesday.

Statement I: Ram read last 30 pages of the book on Tuesday

Statement II: The book has 600 pages out of which half were read by Ram before Monday

In light of the above statements. choose the most appropriate answer from the options given below

- A Data in Statement I alone is sufficient to find the answer
- B Data in Statement II is sufficient enough to find answer
- C Data in Statements I and II together is not sufficient to find the answer
- D Data in both the Statements is sufficient to find the answer

37. Find the missing Letter / number

B2CD, DE3F..... H5Id, J6KL

- A D3GH
- B G3HI
- C FGH4
- D FG4H

38. In a certain code language. if the word RESERVE is coded as GXTGUGT, then how is the word PRESENT coded in that language

- A VPGUGTR
- B VPUGGTR
- C VPGUTGR
- D RGTUGPV

39. In a certain code language, if REPTILE is coded as 49 and SNAKE is coded as 25, then how is CROCODILE coded in that language.

- A 64
- B 36
- C 81
- D 100

40. A number-arrangement machine, when given an input string of numbers, arranges them following a particular pattern. The following is the illustration of an input and its arrangement.

Input:	3	4	9	7	6	11
Step I	9	16	81	49	36	121
Step II	12	20	90	56	42	132
Step III	17	25	95	61	47	137
Step IV	15	23	93	59	45	135

As per the rules followed in the above steps, find the appropriate answer

If 159 is one of the numbers in Step IV, which of the following can be input number?

- A 13
- B 10
- C 12
- D 22

41. Find the next number in the series

7, 9, 14, 27, 28, 81, ?

- A 62
- B 84
- C 65
- D 56

42. The question below consists of a main statement followed by four options. Select the one that logically follows the main statement

If I drive a car, then it is a BMW or a Skoda.

- A I am driving a car. means that it is a BMW or a Skoda
- B The car is neither BMW nor a Skoda. hence I do not drive a car.
- C I drive a car but it is not a Skoda, means it is a BMW
- D All the above

43. If in a certain language, ITNIETAM is the code for INTIMATE, which word has the code TREVNIETARBI?

- A INVRETIBRATE
- B INVERTIBRATE
- C INVERTIBRETA
- D INVERTIBARTE

44. A number -arrangement machine, when given an input string of numbers, arranges them following a particular pattern. The following is the illustration of an input and its arrangement.

Input:	3	4	9	7	6	11
Step I	9	16	81	49	36	121
Step II	12	20	90	56	42	132
Step III	17	25	95	61	47	137
Step IV	15	23	93	59	45	135

What is the input if the following is the arrangement of Step IV?

9, 75, 113, 213, 33, 5

- A 2, 10, 8, 14, 5, 3

- B** 2, 10, 8, 13, 5, 1
- C** 2, 8, 10, 14, 5, 1
- D** 3, 8, 9, 13, 5, 1

45. Among the six persons P, Q, R, S, T, U. each is having different weights
 P is heavier than 3 persons. R is lighter than T
 S is lighter than only Q
 R is not the lightest
 Who is lighter and heavier than P respectively?

- A** T and S
- B** R and S
- C** S and R
- D** T and Q

46. The question below consists of a main statement followed by four options. Select the one that logically follows the main statement.

"Whenever I go shopping. I end up spending more"

- A** I went for shopping means I end up spending less
- B** I did not go for shopping: implies I did not spend more
- C** I did not spend more, means I did not go for shopping
- D** Both (1) and (2)

47. In a certain code language BCG is coded as EFJ. How is the word FALSE coded?

- A** IJKLM
- B** JEPWI
- C** IDOVH
- D** IDOWJ

48. The question below consists of a main statement followed by two statements. Select the one that logically follows the main statement

"Private property. trespassers will be prosecuted" - A notice on a plot of land. Given below are two statements

Statement I: The passer-by may read the notice and may not trespass.

Statement II: The people are scared of prosecution

In light of the above statements, choose the most appropriate answer from the options given below:

- A Only Statement I is implicit
- B Only Statement II is implicit
- C Both Statements I and II are implicit
- D Neither I nor II are implicit

49. The question below consists of a main statement followed by four options. Select the one that logically follows the main statement

Unless I score well, I will not get selected

- A I was not selected, means I did not score well
- B I am selected, implies I scored well
- C I did not score well. means I will not be selected
- D Both (2) and (3)

50. A number -arrangement machine, when given an input string of numbers, arranges them following a particular pattern. The following is the illustration of an input and its arrangement.

Input:	3	4	9	7	6	11
Step I	9	16	81	49	36	121
Step II	12	20	90	56	42	132
Step III	17	25	95	61	47	137
Step IV	15	23	93	59	45	135

As per the rules followed in the above steps, find the appropriate answer

Which is the fifth number from the left end in step III of the following input?

6, 2, 14, 17, 8, 13

- A 64
- B 72
- C 75
- D 7

Language Comprehension

Instructions [51 - 52]

Read the Passage below and answer the question that follows:

Human beings are connected at the level of feeling and emotion: in such a degree that there is practically a subterranean network of the psyche in which some encounters are damaging, some nourishing. This emotional exchange is typically at a subtle, almost imperceptible level. The way a colleague says 'thank you' can leave one feeling ignored, resented or genuinely welcomed and appreciated. We catch feelings from one another as though they were some kind of social virus. Every space is full of emotional signals and every time people connect, they transmit and receive those signals. These emotional encounters have an effect on all the people in that particular circle. Those who are socially skillful can control these emotional messages. A civil and polite

society is able to regulate and control these emotional relationships in less damaging ways. The Emotional Quotient of a society is the sum total of the emotional intelligence of its citizens. When we compliment others for being considerate, we are actually acknowledging their emotional intelligence. The company of such people is a relaxing experience and they are a valuable and enriching presence in any society. Whether we like it or not, we are all interdependent in terms of our feelings and emotions and our emotional intelligence form the framework of society.

51. The author feels that when we meet people some meetings can be

- A** Happy
- B** Enriching
- C** Troublesome
- D** Sad

52. The company of what kind of people is relaxing?

- A** Emotional people
- B** Considerate people
- C** Emotionally intelligent people
- D** Emotionally calm people

53. Fill in the blank

Either my uncle or my aunt ----- coming to the party

- A** is
- B** are
- C** would
- D** aren't

54. Fill in the blank

The cat is wagging ----- tail

- A** its
- B** it's
- C** it is
- D** its'

55. Please select the sentence that makes the accurate use of the word 'diffuse':

- A** He was modest and diffuse about his own success
- B** The problem is how to diffuse power without creating anarchy.
- C** Technologies diffuse rapidly.
- D** The moon was fuller than the night before, but the light was diffused by cloud.

56. Pick out the correct sentence:

- A** Write in ink.
- B** The student uses a lots of inks.
- C** This is a ink pen
- D** Have your ink finished?

57. 'Raghav read the novel in one day' means the same as

- A** One day, Raghav read a novel
- B** Raghav reads the novel.
- C** The novel was read by Raghav in one day.
- D** One day Raghav reads the novel.

58. Fill in the blank.

When I visited them, she ----- working for six months.

- A** had been
- B** was
- C** has been
- D** were now

59. Pick out the correct sentence:

- A** He has two brother in law
- B** He has two brother in laws
- C** He has two brothers in laws
- D** He has two brothers in law.

60. Fill in the blank

You must check the petrol _____ regular intervals.

- A** in

- B with
- C at
- D within

61. Read the passage and answer the question that follows:

In tough times or in times of a crisis, the democratic nation often becomes an authoritarian one. During ordinary times, nobody thinks about the political system. People just vote for those who make promises and try to keep them. As long as the country is secure and there is reasonable development, no one is bothered about the leaders and the policies. But, if there is some kind of aggressive revolution or a shortage of basic supplies or a lot of unemployed citizens, the leadership comes under question.

Which one of the following statements best describes the central idea of the passage above:

- A if there is an economic collapse, democracy gets strengthened
- B People are least concerned with economic policies, if their life is not affected.
- C The communist governments were functioning without any popular support.
- D Citizens are one with the government in ensuring law and order when sections of the society revolt.

Instructions [62 - 64]

Read the passage and answer the question that follows:

The human body is nothing but a set of chemical reactions in some form or the other. The religious scriptures believe that man was made out of the image of the creator of the universe. Does this mean that Oxygen was pumped into the human body and carbon dioxide pumped out to create this being? Is life just the process of oxygenation and decarburization? If the human body is managed by these two processes, then we can safely believe that life came into existence due to these chemical reactions. The highly complex chemical compounds present in the human body are not evident in lower animals or plants. These substances were born because of the synthesis of other smaller molecules.

A large number of recognized chemicals has been observed and proved to be involved in the transmission of impulses from one tissue or cell to another. Some examples of such chemicals are adrenaline, dopamine, acetylcholine, endorphins and enkephalin. The increase or decrease of any one of these chemicals, interferes with the normal functioning of cells and tissues. This creates diseases in the body, and the restoration of their supply cures the diseases. The deficiency of acetylcholine leads to Alzheimer's disease, while a decrease in dopamine leads to Parkinson's disease and its increase causes schizophrenia, a mental disorder. Endorphins and enkephalins work like a drug to produce sensations like pleasure and reduce pain. In depressed persons, lower levels of serotonin and adrenaline are observed. Exercise and meditation help release endorphins in order to produce a sense of calmness and pleasure. As for love, the brain releases a chemical substance called phenylethylamine which acts like an amphetamine to increase mental alertness and physical energy. People with low levels of these chemicals develop a craving for foods such as chocolates, which are rich in such compounds.

62. Which one of the words given below can be used in place of 'a mental disorder' as used in the passage?

- A Sickness
- B Derangement
- C Disease

D Schizophrenia

63. Which one of these words is the right synonym for 'synthesis' as used in the passage:

A Reaction

B Fusion

C Collaboration

D Union

64. Which one of the words given below is the right antonym for 'alertness' as used in the passage?

A Heedlessness

B Consciousness

C Adeptness

D Ineptness

65. Select the ONE sentence that makes correct use of the idiom 'once in a blue moon':

A I go to school every day, once in a blue moon

B She is lucky, she misses school only once in a blue moon.

C Sunday comes once in a blue moon.

D Indian festivals are celebrated once in a blue moon.

66. Choose the sentence that uses the word 'apprise' correctly:

A The problem is obviously one of deciding how to apprise the evidence presented here.

B They should have taken the time to apprise the changing political scenario

C Let's apprise the advantages of air travel.

D The assistant will apprise the director of the situation.

67. I doubt if I _____ resisted the temptation

A would have

B should have

C could have

D will have

68. Before we went hiking, we spent many hours ----- over the maps

A pouring

B sitting

C poring

D pouting

69. The British government ----- terrified of offending ----- ally in Washington

A are, its

B is, their

C is, our

D is, its

70. We went ----- the house.

Select the word that best fits the above incomplete sentence and completes it:

A passed

B past

C paste

D pass

71. The different forms to fill for a driving license are _____

Select the idiom that best fits the above incomplete sentence and completes it:

A a pain in the neck

B a flash in the pan

C the last laugh

D a slap in the face

72. There was a ----- possibility that war would be declared soon.

Select the word that best fits the above incomplete sentence and completes it:

A Probable

B Distinct

C Dubious

D Distinctive

73. All the sentences below use the preposition 'since'.
Select the sentence that makes correct use of it:

- A** They have been waiting here since four hours
- B** I have lived in this house since most of my life.
- C** The family has been abroad since 1998.
- D** She worked in the college since 1996 to 2001

74. The fiery young politician ----- a spell on his audience

- A** threw
- B** put
- C** cast
- D** hurled

75. We got back to the hotel _____ the stroke of midnight.

- A** at
- B** with
- C** up
- D** in

General Awareness

76. Which of the following copper alloys is used for the manufacture of springs and suspension filaments in electrical instruments?

- A** Bronze
- B** Aluminium bronze
- C** German silver
- D** Phosphorus bronze

77. Who translated the book 'The Story of My Experiments with Truth' written by M.K. Gandhi from Gujarati to English?

- A** Mahadev Desai
- B** J.B. Kripalani
- C** Mohanlal Pandya
- D** Vinoba Bhave

78. In contrast to what was previously recognized by Nepal, the height of Mt. Everest has now been found to be higher by how many centimetres?

- A** 85 cms
- B** 84 cms
- C** 86 cms
- D** 88 cms

79. Article 371A of the Constitution of India provides special privileges to which one of the following state?

- A** Nagaland
- B** Mizoram
- C** Sikkim
- D** Manipur

80. Which of the following indigenous sports has not been included in Khelo India Youth Games 2021?

- A** Kalaripayattu
- B** Gatka
- C** Thang-Ta
- D** Vallamkali

81. India announced a Grant of USD 15 million for promoting Buddhist ties with which of the following country?

- A** Nepal
- B** Sri Lanka
- C** Bangladesh
- D** Vietnam

82. What is the name of the Mental Health Rehabilitation Helpline, to be launched by the Social Justice Ministry?

- A** Asha

- B** Empower
- C** Mind Tree
- D** Kiran

83. Who among the following foreigners was the first to visit India?

- A** Hiuen-Tsang
- B** Megasthenese
- C** I Ching
- D** Fahien

84. Who among the following has won the maximum number of gold medals at a single Olympics games in the history of Olympics?

- A** Michael Phelps
- B** James Connelly
- C** Mark Spitz
- D** Abebe Bikila

85. Who among the following is the fastest Asian to cycle the globe?

- A** Vedangi Kulkarni
- B** Xu Yukun
- C** Miho Yoshikawa
- D** Rameshwori Devi

86. The world's first Yoga University outside India – 'Vivekananda Yoga University' was launched on 23rd June 2020 in which city?

- A** New York
- B** London
- C** Berlin
- D** Los Angeles

87. Ross Island in Andaman and Nicobar group of islands has been recently renamed as?

- A** Shaheed dweep
- B** Swaraj dweep
- C** Netaji Subhas Chandra Bose Island
- D** Atal Island

88. Who among the following has been given the power by the Constitution of India to “Impose Reasonable Restrictions” on the fundamental rights?

- A** President
- B** Parliament
- C** Supreme Court
- D** Both Parliament and Supreme Court

89. State Financial Corporations mainly give assistance to develop which of the following?

- A** Small and medium scale industries
- B** Agricultural farms
- C** Cotton industry
- D** Large scale industries

90. Which Indian state has approved to rename caste-based settlements?

- A** Tamil Nadu
- B** Andhra Pradesh
- C** Karnataka
- D** Maharashtra

91. Indonesia has released special commemorative stamp on theme of Ramayana to mark 70th anniversary of establishment of its diplomatic ties with India. Which scene of Ramayana has been depicted on the stamp?

- A** Ram, Sita and Laxman return to Ayodhya after 14 years
- B** Sita’s Swayamwar
- C** Jatayu fights to save Sita
- D** Hanuman carries the mountain with Sanjeevani booti

92. Consider the following statements about a classical dance form

- (A) Tribhanga is a special feature of this dance.
- (B) The torso movement is very important and is a unique feature of this dance.
- (C) Many of today's Gurus of this style belong to the Gotipua tradition.

Identify the classical dance form using the above clues.

- A** Kuchipudi
- B** Odissi
- C** Sattriya
- D** Kathakali

93. If the Balance of Payment of a country is adverse, then which institution will help that country?

- A** World Bank
- B** World Trade Organization
- C** International Monetary Fund
- D** Asian Development Bank

94. Which country has decided to re-introduce tax on big Digital firms like Facebook, Amazon, Google?

- A** India
- B** France
- C** Germany
- D** China

95. Which author and natural historian has been conferred with Indira Gandhi Peace Prize 2019?

- A** Steve Backshall
- B** David Attenborough
- C** Terri Irwin
- D** Chris Packham

96. Which of the following kinds of cells in the human blood have the longest life span?

- A** Basophil
- B** Erythrocyte
- C** Neutrophil
- D** Platelets

97. Which of the following organization has decided to formulate Digital Payment Index?

- A** Niti Aayog
- B** RBI
- C** NPCI
- D** SBI

98. Which of the following indicators are parts of the Inclusive Development Index?

- (A) Living Standards
- (B) Environmental Sustainability
- (C) Protection of Future Generations from Further Indebtedness
- (D) Financial Inclusion

- A** (A), (B) and (C)
- B** (A), (C) and (D)
- C** (B), (C) and (D)
- D** (A), (B) and (D)

99. India has begun discussions with which of the following countries on launching trilateral Supply Chain Resilience Initiative (SCRDI) to reduce dependency on China, necessitated by Beijing's aggressive political and military behaviour?

- A** Sri Lanka and Japan
- B** Japan and South Korea
- C** Japan and Australia
- D** New Zealand and Australia

100. Assertion (A): The Buland Darwaza at Fatehpur Sikri was built by Akbar in 1602.

Reason (R): He wanted to commemorate his conquest of Gujarat.

- A** Both A and R are true and is the correct explanation of A
- B** Both A and R are true but R is not a correct explanation of A
- C** A is true but is false
- D** A is false but R is true

Innovation and Entrepreneurship

101. What is the title of the Authorised Biography of J.R.D. TATA?

- A** My Times: An Autobiography
- B** Beyond the Last Blue Mountain
- C** Ace Against Odds
- D** Wings of Fire

102. The process of gathering information about market or socio-economic trends is called

- A** Need for achievement
- B** Tenacity
- C** Neuroticism
- D** Environmental Scanning

103. India's first live Payments Bank was launched by

- A** Aditya Birla Idea
- B** Cholamandalam
- C** Bharti Airtel
- D** Paytm

104. Which one of the following Ministry publishes the Economic Survey of India?

- A** Ministry of Finance
- B** Ministry of External Affairs
- C** Ministry of Commerce and Industry
- D** Ministry of Statistics and Programme Implementation

105. Which city is ranked as one of the world's five fastest growing startup cities?

- A** Cochin
- B** Ahmedabad

C Bangalore

D Nagpur

106. Which country is No 1 in ease of doing business from last four years from 2017?

A Canada

B Norway

C United States

D New Zealand

Instructions [107 - 115]

After reading the passage given below, choose the best answer to each question that follows:

In contrast to traditional analyses of minority business, the sociological analysis contends that minority business ownership is a group-level phenomenon, in that it is largely dependent upon social-group resources for its development. Specifically, this analysis indicates that support networks play critical role in starting and maintaining minority business enterprises by providing owners with a range of assistance, from the informal encouragement of family members and friends to dependable sources of labor and clientele from the owner's ethnic group. Such self-help networks, which encourage and support ethnic minority entrepreneurs, consist of "primary" institutions, those closest to the individual in shaping his or her behavior and beliefs. They are characterized by the face-to-face association and cooperation of persons united by ties of mutual concern. They form an intermediate social level between the individual and larger "secondary" institutions based on impersonal relationships. Primary institutions comprising the support network include kinship, peer, and neighborhood or community subgroups. A major function of self-help networks is financial support. Most scholars agree that minority business owners have depended primarily on family funds and ethnic community resources for investment capital. Personal savings have been accumulated, often through frugal living habits that require sacrifices by the entire family and are thus a product of long-term family financial behavior. Additional loans and gifts from relatives, forthcoming because of group obligation rather than narrow investment calculation, have supplemented personal savings. Individual entrepreneurs do not necessarily rely on their kin because they cannot obtain financial backing from commercial resources. They may actually avoid banks because they assume that commercial institutions either cannot comprehend the special needs of minority enterprise or charge unreasonably high interest rates. Within the larger ethnic community, rotating credit associations have been used to raise capital. These associations are informal clubs of friends and other trusted members of the ethnic group who make regular contributions to a fund that is given to each contributor in rotation. One author estimates that 40 percent of New York Chinatown firms established during 1900-1950 utilized such associations as their initial source of capital. However, recent immigrants and third or fourth generations of older groups now employ rotating credit associations only occasionally to raise investment funds. Some groups, like Black Americans, found other means of financial support for their entrepreneurial efforts. The first Black-operated banks were created in the late nineteenth century as depositories for dues collected from fraternal or lodge groups, which themselves had sprung from Black churches. Black banks made limited investments in other Black enterprises. Irish immigrants in American cities organized many building and loan associations to provide capital for home construction and purchase. They, in turn, provided work for many Irish home-building contractor firms. Other ethnic and minority groups followed similar practices in founding ethnic-directed financial institutions. (The passage taken from Book/News/Open source)

107. According to the passage, once a minority-owned business is established, self-help networks contribute which of the following to that business?

A Information regarding possible expansion of the business into nearby communities

B Encouragement of a business climate that is nearly free of direct competition

- C Opportunities for the business owner to reinvest profits in other minority-owned businesses
- D Contact with people who are likely to be customers of the new business

108. The passage best supports which of the following statements?

- A A minority entrepreneur who had no assistance from family members would not be able to start a business
- B Self-help networks have been effective in helping entrepreneurs primarily in the last 50 years
- C Minority groups have developed a range of alternatives to standard financing of business ventures
- D Successful minority-owned businesses succeed primarily because of the personal strengths of their founders

109. The passage claims that small-scale individual entrepreneurs

- A Actually avoid banks because they assume that commercial institutions charge unreasonably high interest rates
- B Rushes to banks and other financial institutions for loan
- C Avoid National Banks but believe in the private ones
- D Never uses own savings for entrepreneurship and depends on Govt. loan

110. Which of the following shows the working of a self-help support network, as it is described in the passage?

- A A public high school offers courses in book-keeping and accounting as part of its open enrollment adult education program
- B The local government in a small city sets up a program that helps teen-agers find summer jobs
- C A neighborhood-based fraternal organization develops a program of on-the-job training for its members and their friends
- D A community college offers country residents training programs that can lead to certification in a variety of technical

111. According to the passage the sociological analysis contends that

- A Minority business ownership is a group-level phenomenon, in that it is largely dependent upon social-group resources for its development
- B Minority business ownership is not a group-level phenomenon, in that it is largely dependent upon social-group resources for its development

- C** Minority business ownership is an individual phenomenon, in that it is not dependent upon social-group resources for its development
- D** Minority business ownership is an individual phenomenon, in that it is independent of social-group resources for its development

112. Which of the following can be inferred from the passage about the Irish building and loan associations?

- A** They were started by third- or fourth-generation immigrants
- B** They originated as offshoots of church-related groups
- C** They frequently helped Irish entrepreneurs to finance business not connected with construction
- D** They contributed to the employment of many Irish construction workers

113. Based on the information in the passage, it would be LEAST likely for which of the following persons to be part of a self-help network?

- A** The entrepreneur's childhood friend
- B** The entrepreneur's aunt
- C** The entrepreneur's religious leader
- D** The entrepreneur's banker

114. Which of the following statement is NOT correct as per the above passage?

- A** A major function of self-help networks is financial support
- B** Within the larger ethnic community, rotating credit associations have been used to raise capital
- C** This analysis indicates that support networks play a critical role in starting and maintaining minority business enterprises by providing owners with a range of assistance
- D** When you need venture funding no one will give any money until you already have a marketable product; in other words, funding comes just when you don't need it

115. According to the passage that traditional analyses of minority business would be LEAST likely to do which of the following?

- A** Examine businesses primarily in their social contexts
- B** Focus on current, rather than historical, examples of business enterprises
- C** Focus on the maintenance of businesses, rather than means of starting them
- D** Focus on the role of individual entrepreneurs in starting a business

116. A business where an individual is both the owner and conductor of the business affairs is called

- A** Proprietorship Firms

- B** Partnership Firms
- C** Private Limited Company
- D** None of the above

117. A recently registered enterprise started first time the business of online food delivery services using drones in its locality. This type of business can be an example of

- A** A new enterprise based on new business concept
- B** An existing enterprise based on existing business concept
- C** A New enterprise based on existing business concept
- D** Existing Enterprise based on new business concept

118. Which of the following is not one of the traits of an entrepreneur?

- A** Opportunity Exploration
- B** Perseverance
- C** External locus of control
- D** Risk Taking

119. The executive summary of business plan should be prepared

- A** Before writing the entire business plan
- B** To describe the proposed business in detail
- C** So that it is at least 10 pages in length
- D** After you have written the entire business plan

120. Which of the following describes a mission statement of start up?

- A** It describes the viability of the business
- B** It provides direction and purpose for the start up
- C** It should be written as the first step in developing a business plan
- D** All of the above

121. At the early stage of start-up, entrepreneurs often focus on sales, but then discover that they need to equally focus on

- A** Overtrading
- B** Outsourcing
- C** Managing Cash flow
- D** Taking loan

122. ____ grants the holder the right to exclude others from making, selling, using or offering for sale or importing the invention.

- A** Trademark
- B** Patent
- C** Copy
- D** Trade secret

123. Innovation management involves managing

- A** People
- B** Ideas
- C** Information
- D** All of the above

124. The ----- plan shows whether the business is economically feasible or not.

- A** Human Resource
- B** Business
- C** Economic
- D** Operational

125. Which of the following is NOT included in the financial section of a business plan?

- A** Projected income statements
- B** Break-even point
- C** Start-up costs
- D** None of the above

Answers

Quantitative Techniques and Data Interpretation

1.C	2.D	3.C	4.C	5.D	6.C	7.B	8.B
9.B	10.C	11.B	12.D	13.C	14.C	15.A	16.C
17.C	18.C	19.C	20.B	21.A	22.D	23.B	24.E
25.C							

Logical Reasoning

26.B	27.A	28.D	29.B	30.B	31.A	32.C	33.A
34.C	35.B	36.D	37.C	38.A	39.C	40.C	41.D
42.D	43.B	44.C	45.A	46.C	47.C	48.C	49.D
50.D							

Language Comprehension

51.B	52.C	53.A	54.A	55.B	56.A	57.C	58.A
59.D	60.C	61.B	62.D	63.B	64.A	65.B	66.D
67.C	68.C	69.D	70.B	71.A	72.B	73.C	74.C
75.A							

General Awareness

76.D	77.A	78.C	79.A	80.D	81.B	82.D	83.B
84.A	85.A	86.D	87.C	88.B	89.A	90.D	91.C
92.B	93.C	94.B	95.B	96.B	97.B	98.E	99.C
100.A							

Innovation and Entrepreneurship

101.B	102.D	103.C	104.A	105.C	106.D	107.D	108.C
109.A	110.C	111.A	112.D	113.D	114.D	115.A	116.A
117.A	118.C	119.D	120.B	121.C	122.B	123.D	124.B
125.D							

Explanations

Quantitative Techniques and Data Interpretation

1. C

Anuj takes 1 day to complete

Bharat takes 2 days

Chetan takes 4 days and Dhiraj takes 8 days to complete

option A chetan and Dhiraj together will take $\frac{4 \times 8}{4+8} = \frac{32}{12} = \frac{8}{3} \text{ days}$ so A is correct.

Now calculating for all we get AB in 2/3 days AC in 4/5 days AD in 8/9 days BC in 8/6 days BD in 16/10 days

So we can say BD is 2nd slowest pair

Hence A and C are correct

2. D

we have : 2435753228

Now here we have 5 odd digits and 5 even digits and total 10 places

so 5,5,3,3,7 will arrange in 5 places and 2,2,2,8,4 will arrange in 5 places

we get : total arrangements = $\frac{5!}{3!} \times \frac{5!}{2! \times 2!}$

we get $\frac{(5!)^2}{3! (2!)^2}$

3. C

543 in base 6 expressed in decimal form = $5(36)+4(6)+3 = 207$

317 in base 8 expressed in decimal form = $3(64)+8+7 = 207$

So statement 1 is correct

Now 16 in base 2 = 10000

32 in base 2 = 100000

Therefore statement 2 is false

Hence C is the correct answer

4. C

Probability that A releases a mobile = 0.7

Probability that mobile is a success given that it is released by A = 0.8

Probability that mobile is released by A and is success = $0.8 \times 0.7 = 0.56$

And probability that mobile is a success and released by B = 0.28

Total probability for success = $0.56 + 0.28 = 0.84$

Now Probability that it is success and is released by A = $0.56 / 0.84 = 2/3$

5. D

$$a = \frac{3}{2}b$$

$$b = \frac{3}{4}c \text{ and}$$

$$d = \frac{c}{4}$$

$$c = 4d$$

Now substituting we get

$$a = \frac{3}{2} \times \frac{3}{4} \times 4d$$

so we get $a = \frac{9}{2}d$

$a:d=9:2$

6. C

Let volume be 36 units
 so X fills at 3 units per hour and Y empties at 2 units per hour
 Now Tank was filled in 14 hrs so X filled $14 \times 3 = 42$ units
 Now therefore Y emptied 6 units
 so it will empty 6 units in 3 hours
 so Y will be closed at 11 am

7. B

Let price of banana be x
 so price of orange = $3x$
 and price of apple will be $6x$
 Price of 20 bananas , apples and oranges = $200x$ (1)
 Now if the price of an apple increases by 10%,
 it becomes = $6.6x$
 so price of 20 apples = $132x$
 if price of an orange increases by 30% it becomes = $3.9x$
 so price of 20 oranges = $78x$
 if price of a banana increases by 20%
 it becomes $1.2x$
 so price of 20 bananas = $24x$
 Now total price of 20 bananas , apples and oranges = $234x$ (2)
 So Percentage change in price = $\frac{234x - 200x}{200x} \times 100 = 17\%$

8. B

We have

$$P \left(\frac{R}{100} \right)^2 = 64$$

And

$$P \left(1 + \left(\frac{R}{100} \right) \right)^2 - p = 704$$

Now dividing both we get :

$$\frac{\left(\frac{R}{100} \right)^2}{\left(1 + \frac{R}{100} \right)^2 - 1} = \frac{1}{11}$$

Solving we get $R/100 = 5$

Now substituting we get $P = 64 \times 25 = 1600$

9. B

We have formula :

$$F = I \left(1 - \frac{K}{(V)} \right)^n$$

Here $n = 3$ $V = 500$ $k = 50$

substituting we get

$$F/I = 729/1000$$

Therefore in percentage $F = 72.9$ percent

10. C

Profit share = Investment * Time period

Now we get ratio of profit of A and B :

$$\frac{50,000 \times 3 + 40,000 \times 9}{60,000 \times 3 + 80,000 \times 6}$$

$$\text{we get ratio as } \frac{510}{660} = \frac{17}{22}$$

11. B

$$\text{Number of electronics engineers initially} = \frac{2}{3} \times 252 = 168$$

$$\text{So number of computer engineers initially} = 252 - 168 = 84$$

$$\text{Now number of computer engineers recruited to make ratio } 1:1 = 168 - 84 = 84$$

Let average age of computer engineers be x

so total age will be $168x$

Now average age of electronics engineers will be : $x+2$

So total age will be : $(x+2) 168$

Now as per given

$$\text{Total age} = 336(22)$$

Equating we get :

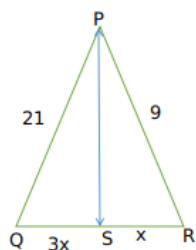
$$336(22) = 336(x+1)$$

$$\text{we get } x = 21$$

so B and C are correct

12. D

we have :



Triangles PSR and PSQ are right triangles

so using pythagoras theorem

we get

$$441 = PS^2 + 9x^2$$

$$81 = PS^2 + x^2$$

subtracting we get

$$360 = 8x^2$$

$$x^2 = 45$$

$$x = 3\sqrt{5}$$

$$QR = 4x = 12\sqrt{5}$$

13. C

Let speed of Raj be v_1 and speed of Rahul be v_2

Now Rahul reaches 5 seconds before Raj and beats him by 50m

so Raj covers 50m in 5 seconds

so $v_1 = 10\text{m/s}$

Now When Raj covers 950m Rahul covers 1000m (in the same time)

so we get $\frac{v_1}{v_2} = \frac{1000}{950}$

$$v_1 = \frac{200}{19} = 10 \frac{10}{19} \text{ m/sec}$$

14. C

Let cost price be 1000 per Kg of rice

Now to make 25% profit at 1000

He will sell 800 gm of rice

Now C.P of 800 gm of rice = 800

Now he sold at 10% less than 1000 so S.P = 900

$$\text{Now therefore profit} = \frac{900-800}{800} \times 100 = \frac{100}{8} = 12.5 \%$$

15. A

Let quadratic equation be $x^2 + bx + c = 0$

Now Sarika made a mistake in reading b , so she would have read c correctly

so $c/1 = \text{product of roots} = 192$ (1)

Meera made a mistake in reading the constant term of the equation so she would have read b correctly

now sum of roots = $-b/1 = -28$ (2)

we get $b = 28$, $c = 192$

so quadratic becomes

$$x^2 + 28x + 192$$

we get $(x+16)(x+12) = 0$

roots are -16 , -12

16. **C**

In these type of questions

we go through the options :

Now when $x=6$ or -6 the value of y is 0

so let us put value of $y=0$ in all options and check which option satisfies $x=6$ and -6

Putting $x=6$ and $y=0$ in option A

we get $|6+0|-|6-0| = 0$

But RHS =6 so this option is discarded

Now putting in option B

$|6-0|+|6+0| = 12$

But RHS is 10

so this option is also discarded .

Now option C we get

$|6|-0 = 6$

so we can say graph can be of $|x|-|y|=6$

Now satisfying option D

we get $|6+0|-|6-0|=0$

So we can say 6,0 and -6,0 satisfies option D as well

Now you have to eliminate between C and D

If you observe $|x+y|-|x-y|=0$ will pass through origin

and the graph here is not passing through origin so you can eliminate option D

Therefore the graph will be $|x|-|y|=6$

17. **C**

Let girls be x

Total employees will be $80+x$

now total value of money will be same :

i.e Average of 1 employee (Number of employees) will be equal to (Average of boys)* Number of boys + (Average of girls)*Number of girls

we get $48000(80+x) = 50,000(80)+40,000(x)$

$48(80+x) = 50(80) + 40x$

we get $8x = 160$

$x=20$

18. **C**

Curved Surface area of roller = $2\pi rh$

Cost = Area covered* cost per meter square

so we get total cost = $2 \times \frac{22}{7} \times \frac{7}{20} \times 4 \times 4 \times 2000$

=Rs 70,400

19. **C**

Total Angle for USA and Japan = $54+45 = 99$

Total angle for Australia and Japan = $18+27 = 45$

Since total is same

so ratio of total exports of USA and Japan to the total exports of Australia and France will be

$99:45 = 11:5$

20. **B**

Total countries = 10

So average angle will be $360/10 = 36$

Now therefore countries subtending angle > 35 are 5 .

21. **A**

Angle exceeds by $45-18 = 27$

so value will be $\frac{27}{360} \times 144,000 = 10,800$ billion\$

22. **D**

Total angle of USA and France = 81

Total angle of Japan, China, Russia and Hongkong = 122.4

Now therefore total exports of USA and France as a percentage of the total exports of Japan, China, Russia and Hongkong: $\frac{81}{122.4} \times 100 = 66.1764$

23. **B**

Let $x + 4 = y$

So, the expression $\frac{3(x+6)(x+12)}{2(x+4)}$ equals $\frac{3(y+2)(y+8)}{2y}$

This equals $\frac{3}{2} \times (y + 16/y + 10)$

The minimum value of $y + 16/y$ is 8 when y equals 4

So, the minimum value of the expression is $3/2 \times 18 = 27$

24. **E**

The question appeared in CMAT 2021 Slot 2 and the question is incorrect . Marks were awarded to students.

25. **C**

The series is an infinite Geometric progression with first term as $2\sqrt{2}$ and common ratio $\sqrt{\frac{2}{3}}$

Now we know that sum of an infinite geometric progression = $\frac{a}{1-r}$ where r is the common ratio and a is first term

$$\begin{aligned}\text{so we get sum} &= \frac{2\sqrt{2}}{1 - \sqrt{\frac{2}{3}}} \\ &= \frac{2\sqrt{6}}{\sqrt{3} - \sqrt{2}}\end{aligned}$$

Rationalizing the denominator

$$\begin{aligned}\text{we get} &:= \frac{2\sqrt{6}(\sqrt{3} + \sqrt{2})}{3 - 2} \\ &= 2\sqrt{6}(\sqrt{3} + \sqrt{2})\end{aligned}$$

Logical Reasoning

26. **B**

First letter is coded with the 2nd to the right of it in alphabet series

2nd letter is coded with immediate previous letter

3rd letter with immediate previous letter

4th letter is coded with 2nd to the right of it in alphabet series
so KLMN will be coded as MKLP

27. **A**

P\$Q means P is the father of Q

Now Q#R will mean Q is mother of R

So we can say R's mother's father is P

So R is either Grand daughter or Grand son of P

Now R@S means R is brother of S so R is a male so R is grandson of P

28. **D**

Take 1st letter of all terms we get a series

F,I,L,O,R we get next as U

Taking 2nd letter of all terms we again get a series with a pattern :

A,C,E,G,I so next will be K

so we get answer as UKR

29. **B**

We have The slip fielder can catch a ball, only if the batsman is brought to the front foot and he tries to hit the ball

Now going through options

A cannot be inferred

option can be termed as negation of statement and can be inferred

30. **B**

A chick is young chicken so we get piglet which is a young pig

31. **A**

$210-195=15$; $195-175=20$; $175-150=25$; $150-120=30$

so we get next number as $120-35=85$

32. **C**

From A and C we get

UT___PQR

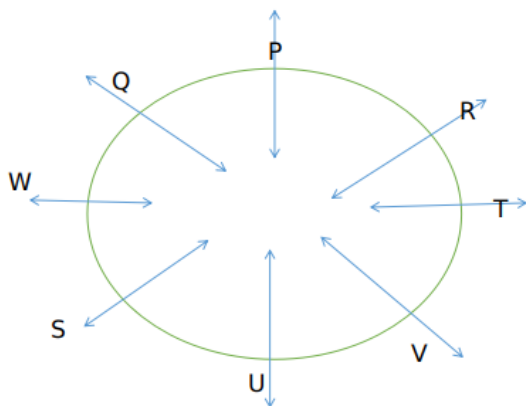
Now combining all we get :

UTSVWPQR

So neighbours of W are P and V

33. **A**

We get the arrangement as :



U and T are adjacent to V

34. **C**

Now $5671 - 2835 = 2836$

$8505 - 5671 = 2834$

Now $11344 - 8505 = 2839$

Now the difference should have been 2832 so we can say 11344 is the wrong term or it does not belong to the group

35. B

$7:77$

$7(7+4) = 77$

similarly we get $14(14+4) = 252$

36. D

I alone will not give us the answer

similarly using 2 we get Pages on Monday + Pages on Tuesday = 300

Combining both we can get pages read on Monday = $300 - 30 = 270$

So D is the correct answer.

37. C

The number in missing term should be 4

The alphabets in 1st term are BCD then DEF so next will be FGH

Now the pattern is B2CD, DE3F, FGH4

38. A

First we have to reverse the word RESERVE

We get E V R E S E R

Now $E+2 = G$, $V+2 = X$, $R+2 = T$, $E+2 = G$, $S+2 = U$, $E+2 = G$, $R+2 = T$

Similarly for PRESENT

we will get code as VPGUGTR

39. C

REPTILE is a 7 letter word and we have $7^2 = 49$

Similarly snake is a 5 letter word and we have $5^2 = 25$

Therefore CROCODILE will be $9^2 = 81$

40. C

We observe that :

Step II + 5 = Step III and Step III - 2 = Step IV

Step IV - 3 = Step II

Now therefore Step II for 159 = 156

Now Input is k then step 1 is k^2 and step II is $k^2 + k$

We get $k^2 + k = 156$

$k = 12$

so input is 12

41. D

The digits at odd places are getting double than the previous odd digit

so we get 7, 14, 28, 56

so 56 is the answer.

42. D

If I drive a car, then it is a BMW or a Skoda.
From this statement all the given statements can be concluded
Hence the correct answer is all of the above

43. B

The letters in the first half and last half of the code are separately reversed to obtain the word.
So we get INVERTIBRATE as answer

44. C

Step IV we have 9, 75, 113, 213, 33, 5
Now step II+5 = Step III and Step III-2 = Step IV
So we get Step II Step IV -3
Now so Step II = 6, 72, 110, 210, 30, 2
Now Input is k then step 1 is k^2 and step 2 is k^2+k
so equating k^2+k with numbers we get input as :
2, 8, 10, 14, 5, 1

45. A

S is lighter than only Q so we can say S is 2nd heaviest and Q is heaviest
P is heavier than 3 persons so P is the third heaviest
we get $Q > S > P$
Now $T > R$ as per 1 and R is not the lightest so U is the lightest
we get $Q > S > P > T > R > U$
so T and S are lighter and heavier than P respectively.

46. C

It says "Whenever I go shopping. I end up spending more"
this is of the form x implies y
so taking negation we get negation y implies negation x
so we get I did not spend more, means I did not go for shopping
Hence option C is the correct answer.

47. C

BCG is coded as EFJ
Each alphabet corresponds to the third alphabet to its right
so FALSE will be coded as IDOVH

48. C

When a notice is displayed, it is assumed that people will read and follow the content so I is implicit
And as notice threatens any trespassers to be prosecuted so II is implicit
Hence C is the correct answer.

49. D

Unless I score well, I will not get selected
This means If I am selected it means I scored well and if I did not score well I will not be selected
Hence both 2 and 3 can be inferred

50. D

Input is 6, 2, 14, 17, 8, 13
Step I will be 36, 4, 196, 289, 64, 169
Now step II = Input 2 + Input
we get Step II = 42, 6, 210, 306, 72, 182
Now Step III = Step II + 3
We get Step III = 45, 9, 213, 309, 75, 185
Now the fifth number from the left end in step III of the following input = 7

Language Comprehension

51. **B**

According to the given passage, the company of some people is a relaxing experience, they are a valuable and enriching presence in any society. Therefore, answer is option B.

52. **C**

In the paragraph, the author mentions, "*When we compliment others for being considerate, we are actually acknowledging their emotional intelligence. The company of such people is a relaxing experience*"

Hence, the answer is option C.

53. **A**

As either my uncle or my aunt is a singular subject, 'is' will be used.

Answer is option A.

54. **A**

'its' is a pronoun when something belongs to someone or connected with a thing. In this question, 'its' is a appropriate word.

Answer is option A.

55. **B**

Out of all the four options, option B has the aptest use of the word 'diffuse'. 'Diffuse' in this option is used to describe the spread(or distribution) of power.

56. **A**

Option B is incorrect as we cannot use the plural form after an article. The correct sentence should be 'The student uses a lot of inks.'

Option C is incorrect as we use the article 'an' before ink. Ink is a vowel-sounding noun, and the article 'an' is used before ink.

Option D is incorrect as ink is an uncountable subject; instead of have, 'has' should be used. The correct sentence should be 'Has your ink finished?'.

Option A is grammatically correct.

Answer is option A.

57. **C**

The given sentence means that Raghav completed reading the whole novel in one day.

Only option C means exactly the given sentence. Question is given in active voice, and option C is in a passive voice, not changing the meaning.

Answer is option C.

58. **A**

This sentence is in past perfect continuous form, this refers to an event which started in past continued up until another time in the past.

Answer is option A.

59. **D**

Plural of compound word 'brother-in-law' is 'brothers-in-law'

Answer is option D.

60. **C**

The word 'in' is used with reference to a particular place or area, 'with' is used for a company or in the presence of someone) and 'within' is used with respect to any time boundary.

In the given question, it is asked with reference to time intervals; therefore, 'at' is the most appropriate word to fill the blank.

Answer is option C.

61. **B**

Option A: It contradicts the point mentioned in the passage.

Option C: Communist governments are not mentioned in the passage.

Option D: Law and order is not the central idea of the passage.

Option B: ***"As long as the country is secure and there is reasonable development, no one is bothered about the leaders and the policies"*** From this, we can infer option B.

Hence, the answer is option B.

62. **D**

In the second paragraph of the passage, the author mentions, *"while a decrease in dopamine leads to Parkinson's disease and its increase causes schizophrenia, a mental disorder."*

Hence, the answer is option D.

63. **B**

Consider the last line of the first paragraph: *"These substances were born because of the synthesis of other smaller molecules."*

From this context, we can infer that 'synthesis' means "mixing/combining". Among the option, Fusion and Union are the candidates. Fusion is a better alternative than Union in this context.

Hence, the answer is option B.

64. **A**

In the second paragraph, the author mentions, *"a chemical substance called phenyl ethylene which acts like an amphetamine to increase mental alertness and physical energy."*

In the context of the line, mental alertness means the ability to concentrate.

Among the options, option A is the best choice.

65. **B**

once in a blue moon is used for situations which happen rarely.

Answer is option B.

66. **D**

"Apprise" means "to inform/tell".

Among the options, option D is the most suitable use of the given word.

67. **C**

Option is incorrect as the given sentence is talking about something in the past. Among the remaining options, option C is the most appropriate one.

Answer is option C.

68. **C**

poring - reading, studying

For the given question, poring is the most appropriate answer among the given options.

Answer is option C.

69. **D**

In this question, the subject is singular (the British government). Therefore, we cannot use plural verbs or pronouns and options A and B are incorrect. 'our' is used when something belongs to two parties. In this context, our cannot be used.

Answer is option D.

70. **B**

Considering the context of the given sentence, past is the most suitable word.

Answer is option B.

71. **A**

a pain in the neck - someone/something that is very annoying

a flash in the pan - impressive beginning but failed at the end

the last laugh - satisfaction of success after long time

a slap in the face - rejection

Among the given options, 'a pain in the neck' is the most appropriate one.

Answer is option A.

72. **B**

distinct - noticeable; that certainly exists

According to the meaning, distinct is the most appropriate word to fill the blank.

Answer is option B.

73. **C**

Since preposition is used to refer to the point of time and for is used to refer to duration of time.

Options A, B and D are incorrect as we cannot use since with reference to the duration of time.

Answer is option C.

74. **C**

cast a spell - enchant someone with a magic spell

Answer is option C.

75. **A**

'at the stroke of midnight' is the phrase used to refer exactly a particular time.

Answer is option A.