

CMAT 4th May 2023 Slot-1

Quantitative Techniques and Data Interpretation

Instructions [1 - 5]

The following table shows the percentage of Cricket players and scored runs by them in three different tournaments P, Q and R. Total number of players is 300 and all the 300 players played all the matches in each tournament. Based on the data in the table; answer-the questions 1-5.

Tournament-wise Percentage of Players scoring runs

	% Players who scored runs		
Tournament	More than 60	More than 40	More than 20
P	25%	35%	80%
Q	25%	30%	60%
R	20%	30%	70%

1. Number of players who scored less than or equal to 40 runs in tournament Q is ____ % more than the number of players who scored more than 60 runs in tournament P and Q together.

- A 65
- B 50
- C 40
- D 45

2. what is the ratio between the number of players who scored more than 60 runs in tournament Q to the number of players who scored less than or equal to 20 runs in tournaments Q and R together?

- A 7 : 15
- B 5 : 14
- C 4 : 15
- D 3 : 5

3. What is the total number of players who scored more than 60 runs in all the three tournaments?

- A 210
- B 270
- C 240
- D 235

4. If L is the number of players who scored more than 40 runs in tournament P and M is the number of players who scored less than or equal to 40 runs in tournament R, then $M - L =$ _____.

- A 140
- B 130
- C 120
- D 105

5. Average number of players who scored more than 20 runs in all the three tournaments is

- A 180
- B 160
- C 190
- D 210

6. Given below are two statements:

Statement I: Let A and B be two events such that $P(A) = 0.6$, $P(B) = 0.2$ and $P(AB) = 0.5$. Then $P(A \cap B) = \frac{3}{10}$

Statement II: Let A and B be two events such that $P(A) = 0.2$, $P(B) = 0.4$ and $P(A \cup B) = 0.6$. Then $P(AB) = \frac{3}{10}$

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

- A Both Statement I and Statement II are correct
- B Both Statement I and Statement II are incorrect
- C Statement I is correct but Statement II is incorrect
- D Statement I is incorrect but Statement II is correct

7. If M, A and T are distinct positive integers such that $M \times A \times T = 1947$, then which of the following is the maximum possible value of $M + A + T$?

- A 189
- B 649
- C 653
- D 1949

8. Let $S(n)$ represents the sum of digits of a natural number n. For example, $S(128) = 1 + 2 + 8 = 11$. What is the value of $S(2^6 \times 3^4 \times 5^5)$?

- A 9
- B 11

C 14

D 10

9. Given below are two statements:

Statement I : A bag contains 10 white and 10 red face masks which are all mixed up. The fewest number of face masks you can take from a bag without looking and be sure to get a pair of the same color is 3.

Statement II: The minimum number of students needed in a class to guarantee that there are at least 6 students whose birthdays fall in the same month, is 61.

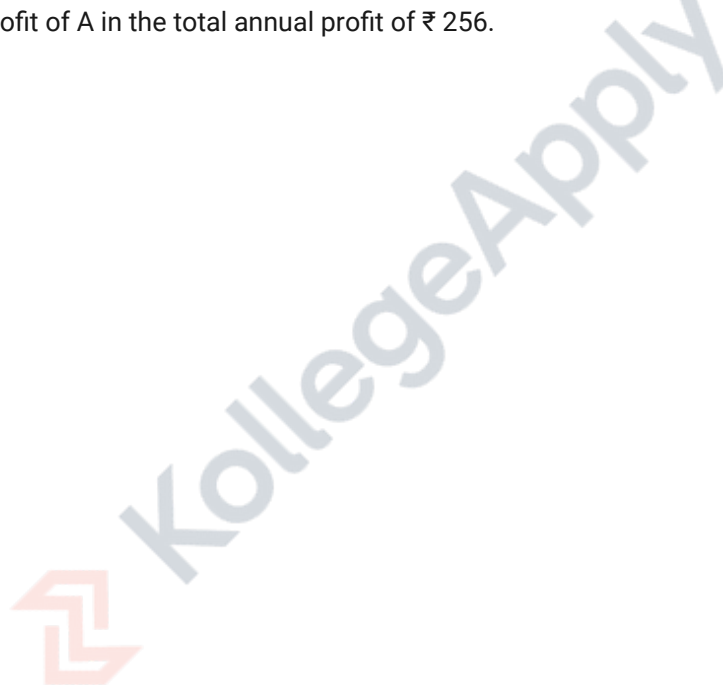
In the light of the above statements, choose the most appropriate answer from the option given below:

- A Both Statement I and Statement II are correct
- B Both Statement I and Statement II are incorrect
- C Statement I is correct but Statement II is incorrect
- D Statement I is incorrect but Statement II is correct

10. A and B started a business with investment of ₹ 4500 and ₹ 2700 respectively.

Find the share of profit of A in the total annual profit of ₹ 256.

- A ₹170
- B ₹120
- C ₹160
- D ₹140



11. Given below are two statements:

Statement I : The difference between the cost price and sale price of an article is ₹ 240. If the profit is 20%, then the selling price is ₹ 1440.

Statement II: If the cost price of 10 DVDs is equal to the selling price of 7 DVDs, then the gain percent is $42\frac{6}{7}$

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

- A Both Statement I and Statement II are correct
- B Both Statement I and Statement II are incorrect
- C Statement I is correct but Statement II is incorrect
- D Statement I is incorrect but Statement II is correct

12. The simple interest accrued on a sum of certain principal in 8 years at the rate of 13% per year is ₹6500. What would be the compound interest accrued on that principal at the rate of 8% per year in 2 years?

- A ₹1040
- B ₹1020
- C ₹1060
- D ₹1200

13. Which of the following statements are true?

- A. If $x : y = 3 : 1$ then $x^3 - y^3 = \frac{10}{11}$
- B. If $x = y + 12$, $x : y = 3 : 2$ and $z : y = 1 : 3$, then $z + x = 44$
- C. If $3x = 8y$ and $5y = 9z$, then $\frac{x}{z} = \frac{72}{15}$

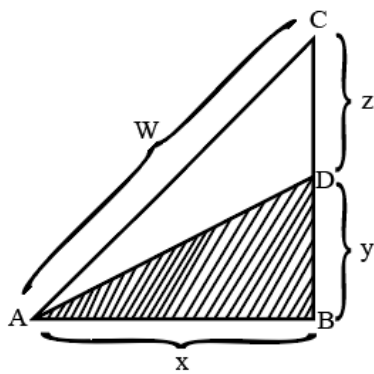
Choose the most appropriate answer from the options given below:

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

14. Average of a, b and c is 11; average of c, d and e is 17; average of e and f is 22 and average of e and c is 17. What is the average of a, b, c, d, e and f?

- A $15\frac{2}{3}$
- B $18\frac{1}{2}$
- C $16\frac{1}{2}$
- D $16\frac{2}{3}$

15. In the following diagram, if the shaded area is one half the area of triangle ABC and angle ABC is right angle then the length of line segment AD is



- A $\frac{1}{1} W$
 B $\sqrt{2x^2 + z^2}$
 C $\sqrt{W^2 - 3y^2}$
 D $\sqrt{y^2 - z^2}$

16. Find the range of values of real number x for which the inequality $(x + 2)(x + 5) > 40$ holds

- A $(-\infty, 10) \cup (3, \infty)$

- B $(3, \infty)$
- C $(-\infty, 1) \cup (1, \infty)$
- D $(-\infty, 10)$

17. The least number of square tiles required to pave the floor of a room 15 m 91 cm and 9 m 46 cm broad is

- A 814
- B 820
- C 840
- D 844

18. Anil travelled 300 km by bus and 200 km by taxi. For this, it took him 5 hours and 30 minutes. However if he travels 260 km by bus and 240 km by taxi then he takes 6 minutes more. The speed of the bus is _____ km/hour.

- A 100
- B 120
- C 80
- D 110

19. Given below are two statements:

Statement I : If the roots of a quadratic equation are 2 and 3, then the equation is $x^2 - 5x - 6 = 0$

Statement II: If the roots of $4x^2 + 3kx + 9 = 0$ are real and distinct, then $k \leq -4$ or $k \geq 4$

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

- A Both Statement I and Statement II are correct
- B Both Statement I and Statement II are incorrect
- C Statement I is correct but Statement II is incorrect
- D Statement I is incorrect but Statement II is correct

20. Given below are two statements:

Statement I: $(243)^{0.16} \times (9)^{0.1} = 0.3$

Statement II: If $3.105 \times 10^P = 0.00239 + 0.000715$, then $P = -3$

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

- A Both Statement I and Statement II are correct

- B** Both Statement I and Statement II are incorrect
- C** Statement I is correct but Statement II is incorrect
- D** Statement I is incorrect but Statement II is correct

Logical Reasoning

- 21.** There is certain relationship between two given words on one side of :: and another word is given on the other side of :: find the other word from the given alternatives having a same relation with this word as the words of the given pair.

Foot : Skateboard :: Oar

- A** Fishing
- B** Rowboat
- C** Sailing
- D** Pedal Boat

- 22.** In an extended family, A is married to B and B has two sons C and D. The younger son D is married to E. F has two children E and G. How is G related to D?

- A** Brother
- B** Brother in law
- C** Cousin
- D** Son

- 23.** Few men were sitting in a row facing north in a row. Sunil is 16th to the left of Ram, who is 18th from the right. Jack is 11th from left and is also 4th to the right of Sunil. How many men were sitting in a row.

- A** 36
- B** 38
- C** 42
- D** 40

- 24.** Find the odd one among the following:

- A** Chapter

- B** Contents
- C** Exercise
- D** Book

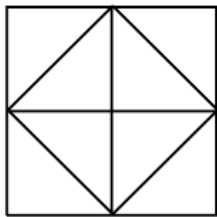
25. If RASCAL is written as -22, then SIMPLE is written as

- A** -14
- B** -8
- C** 10
- D** 16

26. Deepti was walking with her husband Rajiv. They met a Woman Milli. Deepti introduced Milli to Rajiv and said "Her brother's father is the only son of my grandfather." How is Deepti related to Milli?

- A** Sister in law
- B** Mother
- C** Sister
- D** Daughter

27. Count the member of triangles in the following figure.



- A** 8
- B** 12
- C** 9
- D** 14

28. A is the son of B, whose mother is C. D is the husband of E the grand-daughter of C. If F is the wife of A, how is F's father-in-law related to D's daughter?

- A** Brother
- B** Uncle

C Grand father

D Cousin

29. A girl leaves her home and walks 30 mt towards north. She turns clockwise by 45° and walks 30 meter. Then she turns anti-clockwise by 45° and walks 30 meter, Then she turns by 90° towards her left and walks 60 meter. There she turns towards her home. In which direction is she walking?

A South

B South and East

C North and East

D North and West

30. The following question consists of a statement followed by two arguments I and II. Choose the best option.

Statement: Should the cottage industry be shifted to urban cities from villages?

Argument I: No, the rural population will die of hunger.

Argument II: Yes, rural people will be encouraged to adopt farming as their livelihood.

A Argument I is strong

B Argument II is strong

C Argument I & II are invalid.

D Only II is invalid

31. A word is represented by only one set of numbers as given in any one of the options. The sets of numbers given in the, options are represented by two classes of alphabets as in the two matrices. A letter from matrices are represented first by row and then by its column number. Identify set for the word.

	0	1	2	3	4
0	D	O	B	A	I
1	O	B	A	I	D
2	B	A	I	D	O
3	A	I	D	O	B
4	I	D	O	B	A

	5	6	7	8	9
5	W	N	R	M	L
6	N	R	M	L	W
7	R	M	L	W	N
8	M	L	W	N	R
9	L	W	N	R	M

RAIN

- A 57, 12, 31 56
- B 57, 21, 23, 79
- C 66, 44, 42, 96
- D 75, 30, 31, 87

32. Find the next term in the series
CAT, EER GIP, __ KUL

- A JOM
- B ION
- C LNM
- D KLP

33. Some students were sitting in a row. Sheela was sitting 12th from right and Veena was sitting 3rd from left. There were 15 students in between Sheela and Veena. How many students were sitting.

- A 30
- B 29
- C 31
- D 28

34. Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R
Assertion A: Celebrity endorsements add to the brand value and sale of the products.
Reason R: Most celebrity are rich enough to afford the best technology and products in any given category.
In the light of the above statements, choose the most appropriate answer from the options given below:
- A Both A and R are correct and R is the correct explanation of A.
B Both A and R are correct and R is NOT the correct explanation of A.
C A is correct but R is incorrect
D A is incorrect but R is correct.
35. If the given interchanges are made in sign and numbers, which one of the four equations would be-correct?
Interchanges - Signs - and x
- Numbers 3 and 6
A. $6 - 3 \times 2 = 9$
B. $6 \times 3 - 4 = 15$
C. $3 \times 6 - 4 = 33$
D. $3 - 6 \times 8 = 10$
Choose the most appropriate answer from the options given below:
- A A
B B
C C
D D
36. The following question consists of a statement and argument I and II. Choose the best option.
Statement: Should smoking be prohibited.
Argument I: Yes, it is wrong to smoke away millions of money.
Argument II: No, it will throw thousands of workers in tobacco industry out of employment.
- A Only argument I is strong
B Only argument II is strong
C Neither argument I nor argument II is strong
D Both arguments I and II are strong.
37. Two words indicated by I and II have been left out. The correct word in place of I is given as one of the four options against I and correct word in place of II is given as one of the options against II. There is some relationships between two words to the left of :: and the same relationship is between the two words the right of sign :: The correct combination is given as one

of four alternatives. Find the best combination. Here

I - (A) Cereal (B) Field (C) Bread (D) Farmer

II - (P) Building (Q) Marron (R) Clay (S) Kiln

I : Wheat :: Brick: II

A AP

B BS

C CR

D DQ

38. If 'All sweet things are fluids' and 'Some fluids are coloured things', then it implies -

A. Some sweet things are coloured things

B. Some sweet things are fluids

C. All fluids are sweet things

D. Some fluids are sweet things

Choose the *most appropriate* answer from the options given below:

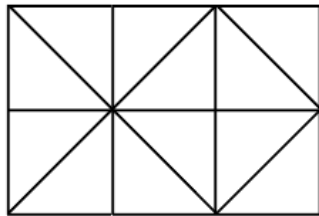
A A, B and C only

B A, and C only

C R, C and E only

D A, C and E only

39. How many squares does the figure have?



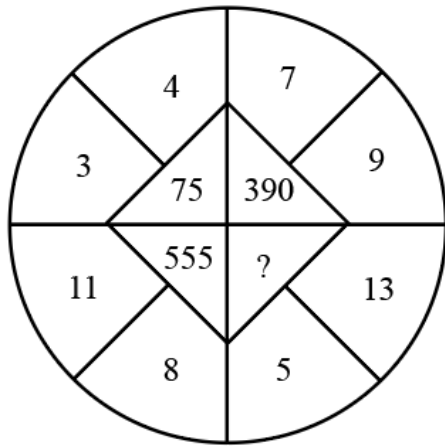
A 6

B 9

C 8

D 10

40. Find the missing number from the given alternative



- A 194
- B 324
- C 582
- D 525

Language Comprehension

41. Pick the appropriate category for the following sentence:

"A horse! a horse! My kingdom for a horse!"

- A Simple
- B Assertive
- C Affirmative
- D Exclamatory

42. Pick the most appropriate auxiliary verb to fill in the blank:

CCTV _____ been used for many years for the surveillance of public areas associated with obvious risk.

- A is
- B are
- C has
- D have

43. Identify the appropriate direct speech form of the following sentence:

He greeted me and asked where I was going.

1. He asks, "Hello, where are you going?"

2. He asked, "Hello, where you are going?"
3. He said, "Hello, where you are going.."
4. He said, "Hello! Where are you going?"

A 1

B 2

C 3

D 4

44. Choose the appropriate question to follow for the statement given below:

Statement given below:

Yes, it does.

A Does it rain in winter?

B Is it raining in winter?

C Did it rain in winter?

D What happens in winter?

45. Choose the most appropriate option to complete the sentence:

A person who does not eat any animal product is called _____.

A Veggie

B Vegan

C Herbivore

D Vegetarian

46. Choose the most appropriate option to correct the given sentence:

Ghana is a seaport in gulf at Guinea.

A Ghana is the seaport in gulf of Guinea.

B Ghana is the seaport at gulf of Guinea.

C Ghana is the seaport on gulf of Guinea.

D The Ghana is a seaport in gulf of Guinea.

47. Pick the correct order of the sentences to form a comprehensive paragraph:

A. A cat does not seem to be capable of the personal devotion often shown by a dog.

B. A dog will follow his master anywhere, but a cat keeps to the house it is used to and even when the house changes hands, the cat will remain there, so long as it is kindly treated by the new owners.

C. There is some truth in the common saying that while clogs become attached to persons, cats are generally attached to places.

D. It thinks most of its own comforts, and its love is only cupboard love.

Choose the most appropriate answer from the options given below:

- A** A, B, C, D
- B** B, C, D, A
- C** C, B, A, D
- D** C, D, B, A

48. Pick the most appropriate option from below:

The expression, "he is laboring under the delusion of a serious nature" suggests that:

- A** He is mentally unfit but working
- B** He is in delirium
- C** He is committing a mistake
- D** He is seriously ill

49. Choose the most appropriate option to correct the given sentence:

Radha is as cleverer as Sudha.

- A** Radha is as clever as Sudha is cleverer.
- B** Radha is as clever as Sudha.
- C** Radha and Sudha are both cleverer.
- D** Sudha is much more cleverer than Radha.

Instructions [50 - 52]

"Gandhi's greatest challenge was post-truth. The Indian social universe was overflowing with ways of living established by the powerful that inevitably oppressed the powerless. In order to tackle this inequality, Gandhi changed the understanding of truth that the powerful had inherited and internalized. He dislodged truth from its long-held, theological location of an ultimate divine compassion. Only goodness mattered. If that quality could be inculcated, truth would take care of itself."

50. Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R.

Assertion A: Gandhi, in his experiment with truth, dislodged truth as all ultimate divine revelation.

Reason R: He holds that truth can be substituted with goodness, and people can manage without truth.

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

- A** Both A and R are correct and R is the correct explanation of A
- B** Both A and R are, correct but R is NOT the correct explanation of A
- C** A is correct but R is not correct.
- D** A is not correct but R is correct.

51. Which of the following notions is compatible with Gandhi's idea of Truth?

- A. Truth is inherited and internalized
- B. Truth is ultimate divine revelation
- C. Truth is a byproduct of honesty, humanism and compassion
- D. Truth directly corresponds with goodness

Choose the correct answer from the options given below:

- A A, B only
- B A, C only
- C B, C only
- D C, D only

52. In the given passage, the term "inevitably" connotes _____.

- A Uncertainty
- B Impossibility
- C Certainty
- D Possibility

53. Match List I with List II.

LIST I (Phrasal Verbs)		LIST II (Meaning)	
A	Run across	I	To lose power or stop working
B	Run down	II	To meet or find by chance
C	Run into	III	To continue without stopping
D	Run on	IV	To meet by chance

Choose the most appropriate answer from the options given below:

- A A-I B-II, C-III, D-IV
- B A-II, B-I, C-IV, D-III
- C A-III, B-IV C-I, D-II
- D A-IV, B-II, C-III, D-I

54. To Ratanbabu, the hotel seemed quite adequate. His room wasn't large, but that didn't matter. There were windows to the east and the south with pleasant views of the country side. The servant Pancha seemed an amiable sort. Ratanbabu was in the habit of bathing twice a day in tepid water throughout the year and Pancha had assured him that there would be no trouble about that.

In the given passage, the phrase "tepid water" means:

- A Steaming hot water
- B Ice - cold water
- C Luke - Warm water
- D Running water

55. Pick the appropriate meaning of the expression "Modus Operandi":

- A Training of surgery
- B Manner of doing things
- C Rules of stage presentation
- D Mode of travelling

56. The expression "well done!" means:

- A That was well done
- B. You would have done well
- C. You have done well
- D. You will do well

Choose the most appropriate answer from the options given below:

- A A, B, only
- B A, C, only
- C A, B, D only
- D B, C, D only

57. Pick the antonym of the word "adroit" from the options given below:-

- A Amateur
- B Deft
- C Expert
- D Skilled

58. Complete the sentence in List I by choosing the appropriate phrase from List II

LIST I		LIST II	
A	He succeed ----- perseverance and sheer hard work.	I	In lieu of
B	He died fighting -----his country	II	In spite of
C	He perservered ----- difficulties.	III	On behalf of
D	He accepted the car ----- his claim of Rs. 3,25,000.	IV	by dint of

Choose the most appropriate answer from the options given below:

- A** A-I, B-II, C-III, D-IV
- B** A-II, B-III, C-IV, D-I
- C** A-III, B-IV, C-I, D-II
- D** A-IV, B-III, C-II, D-I

59. Pick synonyms of the word "shirk":

- A. Avoid
- B. Escape
- C. Evade
- D. Oppose

Choose the most appropriate answer from the options given below :

- A** A, B only
- B** A, C only
- C** A, B, C only
- D** B, C, D only

60. "Poetry is the language of the imagination and the passions. It relates to whatever gives immediate pleasure or pain to the human mind. It comes home to the bosoms and business of men for nothing but what comes home to them in the most general and intelligible shape can be a subject for poetry. Poetry is the universal language which the health holds with nature and itself. He who has a contempt for poetry cannot have much respect for himself, or for anything else. Wherever there is a sense of beauty or harmony, as in the motion of a wave of the sea in the growth of a flower there is poetry in its birth."

Which of the following expressions duly correspond with the given passage:

- A . Poetry ensures for the immediate pleasure and pain experienced by the creative mind.
- B . It revolves around the general and intelligible feelings of the people.

C . A contempt for poetry and self-respect are mutually compatible.
D . It unavoidably relates to mankind's sense of beauty, power and harmony.
Choose the correct answer from the options given below:

- A A, B, C only
- B A, B, D only
- C A, C, D only
- D B, C, D only

General Awareness

61. Given below are two statements:

Statements I: The Indus river system comprises Chenab, Jhelum and Beas.

Statements II: The Ganga river system comprises Ravi, Sutlej and Krishna.

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

- A Both Statement I and Statement II are correct
- B Both Statement I and Statement II are incorrect
- C Statement I is correct but Statement II is incorrect
- D Statement I is incorrect but Statement II is correct

62. In Commonwealth Games 2022, held in _____, the country that topped the medals tally was _____.

- A England Canada
- B England Australia
- C Australia, England
- D Canada, England

63. Arrange the following constitutional provisions according to the schedules in which they are in Ascending order of occurrence.

- A. Union List, State List and concurrent List
- B. Allocation of seats to states and union territories in Rajya Sabha
- C. Provision as to administration and control of Scheduled Areas
- D. Validation of certain acts and regulations
- E. List of states and union territories and their respective territories

Choose the most appropriate answer from the options given below:

- A C, B, E, A, D

B E, D, A, C, B

C E, B, C, A, D

D D, A, B, C, E

64. Match List I with List II

LIST I Disease		LIST II Affected Organ	
A	Herpes	I	Thyroid Gland
B	Rabies	II	Defensive System Lymphocytes
C	Aids	III	Nervous System
D	Goitre	IV	Skin

Choose the most appropriate answer from the options given below:

A A-III, B-II, C-IV, D-I

B A-IV, B-III, C-II, D-I

C A-II, B-IV, C-III, D-I

D A-III B-II, C-IV, D-I

65. Match List I with List II

LIST I Country		LIST II Capital	
A	Austria	I	Kiev
B	Canada	II	Vienna
C	Ukraine	III	Helsinki
D	Finland	IV	Ottawa

Choose the most appropriate answer from the options given below:

A A-II, B-IV, C-III, D-I

B A-IV, B-II, C-III, D-I

C A-IV, B-II, C-I, D-III

D A-II, B-IV, C-I, D-III

66. Which poisonous gas leaked in Bhopal Tragedy in December 1984?

A Methyl Isocyanate

B Antimony Hydride

C Nitrogen Oxide

D Acetyl Fluoride

67. A. Kajri is a folk dance of Uttar Pradesh.

B. Kuchipudi is a folk dance of Kerala.

C. Kathakali is a folk dance of Kerala.

D. Chakari is a folk dance of Uttar Pradesh.

E. Ghapal is a folk dance of Rajasthan

Choose the most appropriate answer from the options given below:

A A, B and C only

B B, C and D only

C A, C and E only

D A, C and D only

68. Kanha National Park is situated in ?

A Assam

B Uttar Pradesh

C Tamil Nadu

D Madhya Pradesh

69. Match List I with List II

LIST I Inventions		LIST II Inventors	
A	Lift	I	Alfred Nobel
B	Radium	II	C. Biro
C	Ball-Point-Pen	III	Marrie and Pierre Currie
D	Dynamite	IV	E.G Otis

Choose the most appropriate answer from the options given below:

- A** A-II, B-IV, C-I, D-III
- B** A-IV, B-III, C-II, D-I
- C** A-III, B-I, C-II, D-IV
- D** A-IV, B-I, C-II, D-III

70. ____ of Indian Constitution deals with the 22 languages recognised by the Constitution.

- A** 10th Schedule
- B** 8th Schedule
- C** 11th Schedule
- D** 12th Schedule

71. Who was the Chief of the Naval Staff in the year 20.22 (November)?

- A** Mr. Anil Chauhan
- B** Mr. R. Hati Kumar
- C** Mr. Manoj Pande
- D** Mr. Vivek Ram Chaudhari

72. Match List I with List II

LIST I New currency Bank Notes			LIST II Image on the back side of Note
A	₹ 500	I	Ran Ki Vav
B	₹ 50	II	Sanchi Stupa
C	₹ 200	III	Hampi with Chariot
D	₹ 100	IV	Red Fort

Choose the most appropriate answer from the options given below:

- A A-I, B-II, C-IV, D-III
- B A-III, B-I, C-II, D-IV
- C A-IV, B-III, C-II, D-I
- D A-II, B-IV, C-I, D-III

73. Given below are two statements:

Statement I: Gross Domestic Product (GDP) is the final value of the goods and services produced within the geographical boundaries of a country during a year.

Statement II: GDP equals the Net Domestic Product (NDP) plus depreciation (Value of loss of an asset) on country's capital goods.

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

- A Both Statement I and Statement II are correct
- B Both Statement I and Statement II are incorrect
- C Statement I is correct but Statement II is incorrect
- D Statement I is incorrect but Statement II is correct

74. At constant temperature the volume of a definite mass of a gas is Inversely Proportional to Pressure is known as?

- A Avogadro's gas law
- B Charle's Law
- C Boyle's Law
- D Gay-Lussac's Law

75. The chemical name of the laughing gas is?

- A** Nitrogen dioxide
- B** Nitric oxide
- C** Nitrogen peroxide
- D** Nitrous oxide

76. Match List I with List II

LIST I		LIST II	
A	R.K Narayana	I	Dreams from My Father
B	Arundhati Rai	II	Malgudi Days
C	Ramchandra Guha	III	God of Small Things
D	Barack Obama	IV	A Corner of a Foreign Field

Choose the most appropriate answer from the options given below:

- A** A-IV, B-I, C-III, D-II
- B** A-II, B-III, C-IV, D-I
- C** A-III, B-I, C-IV, D-II
- D** A-I, B-IV, C-II, D-III

77. Which strait separates India from Sri Lanka?

- A** Coco Strait
- B** Palk Strait
- C** Malacca Strait
- D** Bering Strait

78. Match List I with List II

LIST I		LIST II	
A	Khilafat Movement	I	1931
B	Partition of Bengal by Lord Curzon	II	1942
C	Arrival of Cripps Mission to India	III	1920
D	Gandhi - Irwin Act	IV	1905

Choose the most appropriate answer from the options given below:

- A** A-IV, B-III, C-I, D-11
- B** A-III, B-II, C-1, D-IV
- C** A-III, B-I, C-IV, D-11
- D** A-III, B-IV, C-II, D-1

79. Who defeated Rani Lakshmi Bai in her last Battle?

- A** Lord Canning
- B** Palmerson
- C** Sir Hugh Rose
- D** Warren Hasting

80. Given below are two statements:

Statement I: Pegasus is a spyware which can be installed on mobile phones (and other devices) and can steal information like passwords, messages contacts, calendar details and even voice calls.

Statement II: It is developed by American cyber arms company NSO group and is being used for spying senior Government Officials.

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

- A** Both Statement I and Statement II are correct
- B** Both Statement I and Statement II are incorrect
- C** Statement I is correct but Statement II is incorrect
- D** Statement I is incorrect but Statement II is correct

Innovation and Entrepreneurship

81. ____ means identifying and imitating the best in the world at specific tasks and function.

- A Benchmarking
- B Outsourcing
- C Quality circle
- D Continuous improvement

82. Estimating and financing funds requirement schemes are offered by:

- A. Various commercial banks
- B. Industrial Development Bank of India (IDBI)
- C. Industrial Credit and Investment Corporation of India (ICICI)
- D. Small Industrial Development Bank of India (SIDBI)
- E. Reserve Bank of India

Choose the most appropriate answer from the options given below:

- A A, B, D and E holds true
- B A, C, D and E holds true
- C A, B, C and D holds true
- D B, D and E holds true

83. An important area of concern for innovative entrepreneurs in financing of projects is raising the:

- A Development capital
- B Human capital
- C Structured capital
- D Seed capital

84. Following are the stages of design thinking.

- A. Ideate
- B. Test
- C. Prototype
- D. Empathize
- E. Define

Choose the most appropriate answer that shows right sequence of stages from the options given below:

- A E, A, B, D, C

- B** D, E, A, C, B
- C** A, E, B, C, D
- D** B, C, E, A, D

85. Given below are two statements:.

Statement I : Family businesses are always interested to handover the charge of their business to next generation.

Statement II: Most of the start-up originate from the established family business.

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

- A** Both Statement I and Statement II are correct
- B** Both Statement I and Statement II are incorrect
- C** Statement I is correct but Statement II is incorrect
- D** Statement I is incorrect but Statement II is correct

86. Following are the conventional stages of startup funding:

- A Initial Public Offer(IPO) issue
- B. Procurement of mezzanine financing
- C. Venture capital funding
- D. Angel Investor financing
- E. Seed capital acquisition

Choose the most appropriate answer from the options given below that shows right sequence

- A** A, E, D, C, B
- B** D, E, A, B, C
- C** A, B, E, C, D
- D** E, D, C, B, A

87. An innovation taken by Atal Initiative Mission with a purpose to encourage curiosity and innovation in young talent is:

- A** Atmanirbhar Bharat
- B** Atal Tinkering Lab
- C** Atal New India Challenge
- D** Atal Incubation Centre

88. Nascent entrepreneur is a person:

- A** Who makes a company
- B** Who is in the process of starting a new business
- C** Who is the first in his family to starts an industry with innovative idea and skill
- D** Who is first in his family to complete a course in entrepreneurship development

89. The goals should be _____ for the. success of the business plan.

- A** Generalized
- B** Specific
- C** Limitless
- D** Imaginary

90. Following are the reasons for the failure of an entrepreneurial venture.

- A. Lack of market research
- B. Poor financial control
- C. Poor management
- D. Gender of the entrepreneur
- E. Caste of the entrepreneur

Choose the correct answer from the options given below:

- A** A, B, D and E are correct reasons for the failure of an entrepreneurial venture
- B** A, C, D and E are correct reasons for the failure of an entrepreneurial venture
- C** A, B, C are correct reasons for the failure of an entrepreneurial venture
- D** B, D and E are correct reasons for the failure of an entrepreneurial venture

91. Buying and selling of manufactured goods are related to which entrepreneur?

- A** Novice entrepreneur
- B** Portfolio entrepreneur
- C** Trading entrepreneur
- D** Drone entrepreneur

92. Given below are two statements: one is labelled as Assertion A and the other one is labelled as Reason R.
Assertion A: Industrial Development Bank of India (IDBI) caters the financial needs of the budding industries.

Reason R: Financial constraint is one of the biggest reasons of business failures in entrepreneurship and there is need to provide financing support to them.

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

- A** Both A and R are correct and R is the correct explanation of A

- B** Both A and Rare correct and R is the NOT the correct explanation of A
- C** A is correct but R is not correct
- D** A is not correct but R is correct

93. Diffussion of Innvoation theory is assosiated with:

- A** Peter Drucker
- B** Schumpeter
- C** Everett Rogers
- D** Fedrick Taylor

94. Given below are two statements: one is labelled as Assertion A and the other one is labelled Reason R.

Assertion A: AICTE, UGC, NITI AAYOG and commercial banks are coming up with many offerings to promote entrepreneurship.

Reason R: Govemment wants to develop pro-entrepreneurship and supporting environment in the country.

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

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

95. The term 'entrepreneur' has been from:

- A** English verb
- B** Greek verb
- C** Italic verb
- D** French verb

96. The steps involved in project approval are as follows:

- A. Carrying out a detailed project analysis
- B. Developing infrastructure prototype for project development
- C. Generating a business idea
- D. Performing a project specific factor analysis
- E. Conducting a free-feasibility analysis

Choose the most appropriate answer from the options given below that shows right sequence

- A** D, E, A, C, B
- B** E, A, C, B, D

C A, B, C, D, E

D C, D, E, A, B

97. Given below are two statements :

Statement I : Venture capital firms are usually organized as limited partnerships.

Statement II : Venture capitalist is a money manager who is involved in making risk investments from equity capital with the objective of gaining better returns.

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

A Both Statement I and Statement II are correct

B Both Statement I and Statement II are incorrect

C Statement I is correct but Statement II is incorrect

D Statement I is incorrect but Statement II is correct

98. Given below are two statements:

Statement I: Urbanization around the world is an, opportunity to innovate.

Statement II: Urbanization around the world is an issue because of overpopulation.

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

A Both Statement I and Statement II are correct

B Both Statement I and Statement II are incorrect

C Statement I is correct but Statement II is incorrect

D Statement I is incorrect but Statement II is correct

99. Angel investors are considered to be opposite of

A Arbitrageurs

B Global investors

C Hedge funds

D Venture capitalists

100. Which of the following characteristics belong to the low-end disruptive innovation?

A It makes food products into better products

B It delivers products at lower cost

C It targets non consumption

D It improves profit margins

Answers

Quantitative Techniques and Data Interpretation

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

Logical Reasoning

21.B	22.B	23.D	24.D	25.A	26.C	27.B	28.C
29.B	30.C	31.A	32.B	33.A	34.B	35.D	36.B
37.C	38.B	39.B	40.C				

Language Comprehension

41.D	42.C	43.D	44.A	45.B	46.C	47.C	48.C
49.B	50.C	51.D	52.C	53.B	54.C	55.B	56.B
57.A	58.D	59.C	60.B				

General Awareness

61.C	62.B	63.C	64.B	65.D	66.A	67.C	68.D
69.B	70.B	71.B	72.C	73.A	74.C	75.D	76.B
77.B	78.D	79.C	80.C				

Innovation and Entrepreneurship

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

Explanations

Quantitative Techniques and Data Interpretation

1. C

It is given,

	> 60	> 40	> 20
P	75	105	240
Q	75	90	180
R	60	90	210

Number of players who scored less than or equal to 40 runs in tournament Q = $300 - 90 = 210$

$$210 = \frac{100+x}{100} (75 + 75)$$

$$100 + x = 210 \left(\frac{100}{150} \right)$$

$$x = 40\%$$

The answer is option C.

2. B

It is given,

	> 60	> 40	> 20
P	75	105	240
Q	75	90	180
R	60	90	210

The number of players who scored more than 60 runs in tournament Q is 75.

The number of players who scored less than or equal to 20 runs in tournaments Q and R together = $120 + 90 = 210$

Required ratio = $75 : 210 = 5 : 14$

The answer is option B.

3. A

It is given,

	> 60	> 40	> 20
P	75	105	240
Q	75	90	180
R	60	90	210

Total number of players who scored more than 60 runs in all the three tournaments = $75 + 75 + 60 = 210$

The answer is option A.

4. D

It is given,

	> 60	> 40	> 20
P	75	105	240
Q	75	90	180
R	60	90	210

The number of players who scored more than 40 runs in tournament P(L) = 105

The number of players who scored less than or equal to 40 runs in tournament R(M) = $300 - 90 = 210$

$$M - L = 210 - 105 = 105$$

The answer is option D.

5. D

It is given,

	> 60	> 40	> 20
P	75	105	240
Q	75	90	180
R	60	90	210

Average number of players who scored more than 20 runs in all the three tournaments = $\frac{240+180+210}{3} = \frac{630}{3} = 210$

The answer is option D.

6. E

This question is not clear and is officially removed from CMAT 2023 paper.

7. C

$$1947 = 1 \times 3 \times 649 = 3 \times 11 \times 59$$

$$M \times A \times T = 1 \times 3 \times 649 = 3 \times 11 \times 59$$

$$\text{Maximum value of } M + A + T = 1 + 3 + 649 = 653$$

The answer is option C.

8. A

$$2^6 \times 3^4 \times 5^5 = (2 \times 5)^5 \times 2 \times 3^4 = 16200000$$

$$S(2^6 \times 3^4 \times 5^5) = S(16200000) = 9$$

The answer is option A.

9. A

Statement 1

After drawing 3 masks, there can be 2 combinations possible -All three are of same color or two are of same color and 1 is of different color. Hence we can ensure that we can get two masks of same color after drawing 3 masks, randomly.

If we draw less than 3 masks i.e. 2 masks, there is a possibility of both the masks being of different color hence we can't ensure that these masks can be of different color, hence the minimum number of masks we need to draw is 3.

Statement 2

To calculate the minimum number of students required, we need to consider the worst case scenario i.e. the birthdays of students are evenly spread across all the 12 months. We'll have to assume that there are atleast 5 birthday is each month, so the total number of students required = $5 \times 12 = 60$. To assure that there is 1 month in which we have 6 birthdays, we'll have to add 1 to this number, hence the minimum number of students required = $60 + 1 = 61$

10. C

Profits of A and B will be in the ratio of investments, i.e. $4500:2700 = 5:3$

Total profit = Rs 256

$$A's \text{ profit} = \frac{5}{8} (256) = 5 (32) = \text{Rs } 160$$

The answer is option C.

11. **A**

Statement I:

It is given, profit percentage = 20%

This implies, $SP = \frac{120}{100}CP$

It is given, $\frac{120}{100}CP - CP = 240$

$$\frac{20}{100}CP = 240$$

$$CP = 1200$$

$$SP = 1200 + 240 = \text{Rs } 1440$$

Therefore, statement I is correct.

Statement II:

It is given,

$$10CP = 7SP$$

$$\text{Profit \%} = \frac{SP - CP}{CP} \times 100 = \frac{300}{7} = 42\frac{6}{7}\%$$

Therefore, statement II is correct.

The answer is option A.

12. **A**

It is given,

$$\frac{P \times 8 \times 13}{100} = 6500$$

$$P = \text{Rs } 6250$$

$$\text{Amount after 2 years} = 6250 \left(1 + \frac{8}{100}\right)^2 = 6250 \times \frac{108}{100} \times \frac{108}{100} = 7290$$

$$\text{Compound interest} = 7290 - 6250 = \text{Rs } 1040$$

The answer is option A.

13. **C**

Statement A:

$$x : y = 3 : 1$$

$$x^3 - y^3 = (3k)^3 - k^3 = 26k^3$$

This implies value of $x^3 - y^3$ cannot be determined from the given information.

Therefore, statement A is incorrect.

Statement B:

It is given,

$$x = y + 12 \text{ and } x : y = 3 : 2$$

$$\text{Let } x = 3k \text{ and } y = 2k$$

$$3k = 2k + 12$$

$$k = 12$$

$$x = 36 \text{ and } y = 24$$

$$\text{It is given, } z : y = 1 : 3$$

$$z = \frac{24}{3} = 8$$

$$z + x = 36 + 8 = 44$$

Therefore, statement B is correct.

Statement C:

It is given, $3x = 8y$ and $5y = 9z$

$$x : y = 8 : 3 = 24 : 9$$

$$y : z = 9 : 5$$

$$x : y : z = 24 : 9 : 5$$

$$x : z = 24 : 5 = 72 : 15$$

Therefore, statement C is correct.

The answer is option C.

14. **A**

It is given,

$$\frac{a+b+c}{3} = 11$$

$$a + b + c = 33 \dots\dots (1)$$

$$\frac{c+d+e}{3} = 17$$

$$c + d + e = 51 \dots\dots (2)$$

$$\frac{e+f}{2} = 22$$

$$e + f = 44 \dots\dots (3)$$

$$\frac{e+c}{2} = 17$$

$$e + c = 34 \dots\dots (4)$$

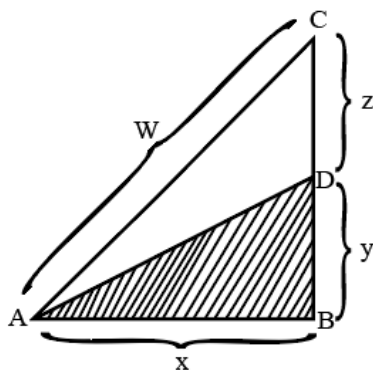
(1) + (2) + (3) - (4) we get the sum of a, b, c, d, e and f

$$a + b + c + d + e + f = (a+b+c) + (c+d+e) + (e+f) - (e+c) = 33 + 51 + 44 - 34 = 94$$

$$\text{Average} = \frac{94}{6} = \frac{47}{3} = 15\frac{2}{3}$$

The answer is option A.

15. **C**



In the question, it is given that area of triangle ABC is 2 times the area of triangle ABD.

$$\frac{1}{2}x(y+z) = 2\left(\frac{1}{2}xy\right)$$

$$y + z = 2y$$

$$y = z$$

Triangles ABC and ABD are right-angled triangles.

$$W^2 = x^2 + 4y^2$$

$$W^2 = x^2 + y^2 + 3y^2$$

$$AD^2 = x^2 + y^2$$

$$AD^2 = W^2 - 3y^2$$

$$AD = \sqrt{W^2 - 3y^2}$$

The answer is option C.

16. E

$$(x + 2)(x + 5) > 40$$

$$x^2 + 7x + 10 > 40$$

$$x^2 + 7x - 30 > 0$$

$$(x + 10)(x - 3) > 0$$

Range of x is $(-\infty, -10) \cup (3, \infty)$

As none of the given options is same as above, this question is removed from official CMAT exam.

17. A

Let the number of square tiles be n and the area of each square tile be x^2

Length = 1591 cm

Breadth = 946 cm

x is the H.C.F of 1591 and 946.

$$1591 = 43 \times 37$$

$$946 = 43 \times 2 \times 11$$

$$x = 43$$

$$n(43)(43) = (1591)(946)$$

$$n = 37 \times 22 = 814$$

The answer is option A.

18. A

Let the speed of bus be b km/hr and the speed of taxi be t km/hr.

It is given,

$$\frac{300}{b} + \frac{200}{t} = \frac{11}{2} \dots\dots (1)$$

$$\frac{260}{b} + \frac{240}{t} = \frac{56}{10} \dots\dots (2)$$

$$(1) \times 6 \Rightarrow \frac{1800}{b} + \frac{1200}{t} = \frac{66}{2} \dots\dots (3)$$

$$(2) \times 5 \Rightarrow \frac{1300}{b} + \frac{1200}{t} = \frac{56}{2} \dots\dots (4)$$

(3)-(4), we get

$$\frac{500}{b} = 5$$

$$b = 100$$

The answer is option A.

19. **B**

Statement 1:

$k(x - 2)(x - 3) = k(x^2 - 5x + 6)$ is the quadratic equation whose roots are 2 and 3.

Therefore, statement 1 is incorrect.

Statement 2:

Given equation: $4x^2 + 3kx + 9 = 0$

Roots of the equation are real and distinct when the discriminant of equation is greater than zero.

$$(3k)^2 - (4)(4)(9) > 0$$

$$(k - 4)(k + 4) > 0$$

$$k < -4 \text{ and } k > 4$$

But in the given statement, equal to sign is also considered which is incorrect.

If discriminant is equal to zero, roots of the equation are equal.

Therefore, statement 2 is incorrect.

The answer is option B.

20. **D**

Statement I:

$$(243)^{0.16} \times (9)^{0.1} = 3^{0.8} \times 3^{0.2} = 3$$

Therefore, statement I is incorrect.

Statement II:

$$3.105 \times 10^P = 0.00239 + 0.000715$$

$$3.105 \times 10^P = 0.003105$$

$$3105 \times 10^P = 3.105$$

$$P = -3$$

Therefore, statement II is correct.

The answer is option D.

Logical Reasoning

21. **B**

We skate on a skateboard with help of our feet.

Now we need to find out what we use an oar for.

Option A : Fishing

We use a fishing rod for fishing

Option C : Sailing

We use a boat for sailing

Option D : Pedal Boat

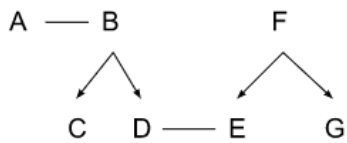
We use our foot to pedal the boat

Option B : Rowboat

In rowing, oars are used **to propel the boat**.

Hence correct answer is option B

22. **B**



A is married to B and has two sons C and D.

D is married to E, G and F are E's sibling and parent, respectively.

From the above information we can say that D is a son so he is a male, and G is sibling of D's wife E.

Hence D is brother in law of G

23. **D**

From the first sentence we can say that there are 15 people between Ram and Sunil and Ram has 17 people to his right.

S 15 people R 17 people

Jack is 4th to right of Sunil, so he must have 3 people between him and Sunil. Since there are 15 people between Sunil and Ram, we can say that there will be $15 - 4 = 11$ people between Jack and Ram.

Jack is 11th from left and he also has Sunil to his left. Jack will have 10 people to his left and Sunil is 4th to his left, This must mean that Sunil will have $10 - 4 = 6$ people to his left.

6 people S 3 people J 11 people R 17 people

Hence we can say that there are $6 + 1 + 3 + 1 + 11 + 1 + 17 = 40$ people in the row

24. **D**

Chapters, Content and Exercise are parts of a Book. Hence Book is the odd man out among the given options.

25. **A**

If we consider the numerical value corresponding the Alphabets

R = 18

A = 1

S = 19

C = 3

A = 1

L = 12

$-18 + 1 - 19 + 3 - 1 + 12 = -22$

Hence we have to subtract and add alternate alphabets

S = 19

I = 9

M = 13

P = 16

L = 12

E = 5

$-19 + 9 - 13 + 16 - 12 + 5 = -14$

26. **C**

Milli's brother's father is the only son of Deepti's grandfather.

Milli's brother's father means Milli's father, and the father is only son of Deepti's grandfather.

Thus Milli, her brother and Deepti will have same father.

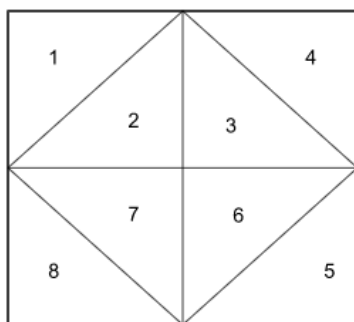
Hence Milli and Deepti are sisters.

27. **B**

We can see that there is square that is divided into 4 parts.

Each part is divided into two triangles.

Hence the square is made up of 8 triangles, as labelled below



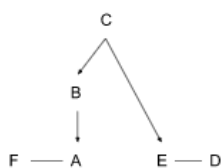
Now if observe Triangle number 2 and 7 can also form a triangle

Similarly triangle numbers 2 and 3, 3 and 6 and 6 and 7 can also form a triangle.

Hence total number of triangles = $8+4 = 12$

28. **C**

From the given information we can draw the following family tree



We can observe that A and F are husband and wife. A is the son of B. C is mother of B. C is grandmother of A and E. Lastly, D is husband of E.

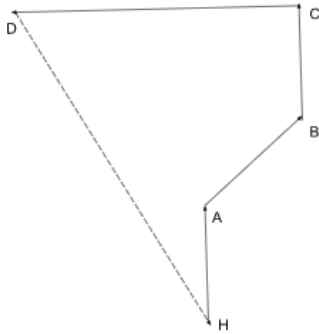
We need to find the relation between F's father in law and D's daughter.

F's father in law can be be B or husband of B, (we can't say exactly as we don't know the gender of B)

E and D's have C as their grand mother and B and/or his husband as Uncle.

Hence E and D's daughter will have F's father in law as her grandfather.

29. **B**



Let's assume H to be home.

She walks 30 meters towards north(at A)

H will be South of A

Now from A she walks towards B which is north east of A.

Hence H will be towards South - west of B

Now she'll walk towards D which to her left/ east, She walks 60 meters so she'll be to the left of H

Hence now H will be towards south east of D

30. **C**

The question under scrutiny: **[Should the cottage industry be shifted to urban cities from villages?]**

Argument I: This argument suggests that if the cottage industry is shifted to urban cities from villages, the rural population will die of hunger. However, this argument assumes that the cottage industry is the sole source of livelihood for the rural population, which may not be the case. There could be other means of income and employment in rural areas, such as agriculture, animal husbandry, or other industries. Therefore, Argument I is not strong.

Argument II: This argument implies that if the cottage industry is shifted to urban cities from villages, it would encourage rural people to adopt farming as their primary livelihood. Assuming that shifting the cottage industry will automatically encourage everyone to adopt farming is an oversimplification. Therefore, argument II is also not strong.

Based on the analysis, both arguments I and II are not strong - they do not help answer the given question. Hence, Option C is the correct choice



31. **A**

Option A

57, 12, 31 56 - R, A, I, N

Option B

57, 21, 23, 79 - R, A, D, N

Option C

66, 44, 42, 96 - R, A, O, W

Option D

75, 30, 31, 87 - R, A, I, W

Hence Option A is the correct answer

32. **B**

1st letters of each term are : C, E, G, ?, K

We can observe that these are alternate alphabets of english alphabets

Hence, we can say that the first alphabet of the missing term will be I

2nd letter of each term are : A, E, I, ?, U

We can observe that there is gap of exactly 3 alphabets between any 2 consecutive terms.

Hence we can say that the second alphabet of the missing term will be O

3rd letter of each term are : T, R, P, ?, L

We can observe that these are alternate alphabets in descending order.

Hence we can say that the third alphabet of the missing term will be N

33. A

Sheela was sitting 12th from right, thus there will be 11 people to her right

Veena was sitting 3rd from left, thus there will be 2 people to her left

There are 15 people between Sheela and Veena.

Thus total number of people in the row are $2+1+15+1+11 = 30$

34. B

Assertion A

Celebrity endorsement is a form of advertising campaign or marketing strategy which uses a celebrity's fame or social status to promote a product, brand or service, or to raise awareness about an issue. Marketers use celebrity endorsers in hopes that the positive image of the celebrity endorser will be passed on to the product's or brand's image.

Thus this is an correct Assertion.

Reason R

Most celebrities are highly famous and rich people. This fame and money enables them to enjoy various luxuries of life. Thus, this is a correct statement.

Although R is a correct statement, it cannot be the correct reason for the given assertion as brands ask celebrities to endorse their products because of the influence that celebrities have over the people and not because of their lifestyle

35. D

A. $6 - 3 \times 2 = 9$

After interchanges

$3 \times 6 - 2 = 9$

This is incorrect as L.H.S = 16

B. $6 \times 3 - 4 = 15$

After interchanges

$3 - 6 \times 4 = 15$

This is incorrect as L.H.S = - 21

C. $3 \times 6 - 4 = 33$

After interchanges

$6 - 3 \times 4 = 33$

This is incorrect as L.H.S = -6

D. $3 - 6 \times 8 = 10$

After interchanges

$6 \times 3 - 8 = 10$

This correct as L.H.S. = R.H.S. = 10

36. **B**

Argument 1 : Smoking should be prohibited primarily because of the hazardous effects of it toward our health and environment. Although prohibiting smoking will save people a lot of money but this can't be the basis for banning smoking, hence this argument will be considered as an weak argument.

Argument 2 : Smoking is a billion dollar industry and lot of people are employed in this industry. Surely, banning smoking will have an adverse effect on all those people who are employed in the industry, hence this can be considered as an strong argument.

Option B is the right answer

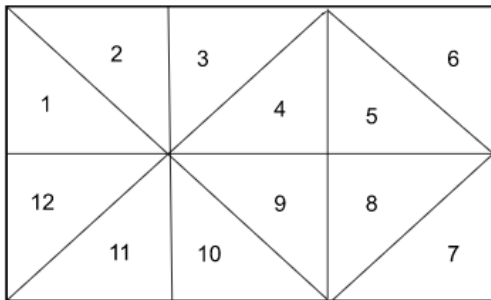
37. **C**

The given relation is of raw materials and and their end product. Such as WHEAT is used to make BREAD. And BRICKS are made up of CLAY.

So, correct answer is option is CR

39. **B**

The given figure is made up of triangles, let's number each triangle for better understanding.



We can observe that triangles 1 and 2 will make a square.

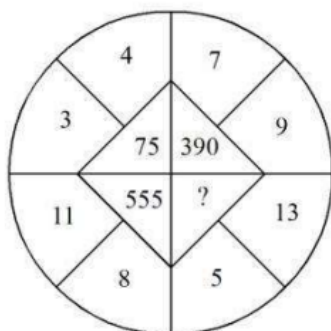
Similarly, 3 and 4, 5 and 6, 7 and 8, 9 and 10 and 11 and 12 will also make a square

Triangles 4, 5, 8 and 9 will also make a square

Triangles 1, 2, 3, 4, 9, 10, 11 and 12 will make a square and similarly triangles 3, 4, 5, 6, 7, 8, 9, and 10 will make a square.

Hence there will be a total of 9 squares possible.

40. **C**



In the top left quarter of circle we can observe that

$$(3^2 + 4^2) \times 3 = 75$$

In the top right corner

$$(7^2 + 9^2) \times 3 = 390$$

In the bottom left corner

$$(11^2 + 8^2) \times 3 = 555$$

In the bottom right corner

$$(13^2 + 5^2) \times 3 = 582$$

Language Comprehension

41. D

The sentence "A horse! a horse! My kingdom for a horse!" is an exclamatory sentence due to its expression of intense emotion and excitement. The exclamation marks and the repeated phrase "a horse" contribute to the urgent and desperate tone conveyed. In this sentence, the speaker strongly desires or needs a horse, underscoring the significance they place on acquiring one.

The correct option is D.

42. C

The use of "has" as the auxiliary verb in this sentence is appropriate because it indicates an action that started in the past and continues into the present. The phrase "for many years" suggests a duration of time, indicating that the use of CCTV for surveillance has been ongoing. The auxiliary verb "has" is used with the third-person singular subject "CCTV" to form the present perfect tense, which is suitable for describing an action that began in the past and has a connection to the present.

The correct option is C.

43. D

Option A: In this sentence, the word 'Hello' should be followed by an exclamation mark since it is used to attract someone's attention. This statement is grammatically wrong.

Option B: In direct speech, when we report someone's words, we should maintain the correct verb tense and word order. In this case, the reported question "Where you are going" should follow the standard subject-verb order, which is "Where are you going?"

Thus, this statement is also grammatically wrong.

Option C: As the question asked is not followed by a question mark, this statement is not correct.

Option D: Since this statement is grammatically correct and represents the exact words spoken by someone, this is the correct option.

The correct option is D.

44. A

Since the statement suggests that something happens in general or regularly, the appropriate question should inquire about the general occurrence. The question "Does it rain in winter?" is suitable because it asks about the general occurrence of rain during the winter season.

The correct option is A.

45. B

A person who does not eat any animal products, including meat, dairy, eggs, and honey, is commonly referred to as a vegan. Vegans follow a plant-based diet and abstain from consuming any animal-derived foods.

The correct option is

46. C

In the given statement, the preposition "in" will be replaced by "on", as using the preposition "on," properly conveys the idea that Ghana is situated along the coastline of the Gulf of Guinea, rather than being inside the gulf or merely near it.

Thus, the correct option is C.

47. **C**

Statement C introduces the topic of cats and their attachment to places. Statement B follows this and provides a contrast between dogs and cats in terms of their attachment to places and emphasizes the tendency of cats to stay in the familiar house. Statement A continues the comparison between dogs and cats, highlighting that cats may not display the same level of personal devotion as dogs. Statement D concludes the paragraph by emphasizing that cats prioritize their own comforts and may not exhibit the same depth of emotional attachment as dogs.

Thus, the correct option is C.

48. **C**

The expression "he is laboring under the delusion of a serious nature" implies that the person is experiencing a strong belief or misconception that is significant or grave in nature.

Derilium is a disturbed state of mind or consciousness, especially an acute, transient condition associated with fever, intoxication, and certain other physical disorders, characterized by symptoms such as confusion, disorientation, agitation, and hallucinations.

Since this summarised the expression, the correct option is B.

49. **B**

In the original sentence, the word "cleverer" is not grammatically correct. The correct comparative form of the adjective "clever" is "more clever." However, in this case, it is more common and natural to use the structure "**as + adjective + as**" for comparing the two individuals. Therefore, the corrected sentence should be: "**Radha is as clever as Sudha.**"

The correct option is B.

50. **C**

"Gandhi changed the understanding of truth that the powerful had inherited and internalized. He dislodged truth from its long-held, theological location of an ultimate divine compassion"

From the above excerpt, it can be understood that Gandhi dislodged truth as all ultimate divine revelation. Thus, assertion A is correct.

"Only goodness mattered. If that quality could be inculcated, truth would take care of itself."

In the above excerpt, although it is mentioned that the quality that Gandhi considered superior is goodness, it is nowhere mentioned that truth can be replaced by goodness, and people can manage without truth. Gandhi considered truth as a byproduct of goodness, rather than a substitute.

The correct option is C.

51. **D**

Option A suggests that truth is something that is passed down or acquired through inheritance or internalization. However, the passage explicitly states that Gandhi changed the understanding of truth by giving more importance to goodness. Thus, this is not the correct statement.

The passage explicitly mentions that Gandhi dislodged truth from its long-held theological location of an ultimate divine compassion. This suggests that Gandhi did not view truth as a singular, divine revelation but rather shifted the understanding of truth away from its theological association. Thus, option B is not a correct statement.

The passage explicitly mentions that truth is a byproduct of goodness. Honesty, humanism and compassion are the subsets of goodness. Thus, option C is a correct statement.

Similarly, option D will also be a correct statement.

The correct option is D.

52. **C**

The term "inevitably" suggests that the ways of living established by the powerful in the Indian social universe inevitably oppressed the powerless. It indicates a sense of certainty, implying that oppression was bound to happen as a result of the established power dynamics.

The correct option is C.

53. **B**

A) **Run across:** To 'run across' is to find something, or to meet someone coincidentally or by chance.

B) **Run down:** 'Run down' is used to denote something in a poor or neglected state.

C) **Run into:** To 'run into' is to meet someone by chance.

D) **Run on:** When something runs on, it continues for longer than expected period.

The correct option is B.

54. **C**

In the given passage, the phrase "tepid water" means water that is neither hot nor cold, but lukewarm in temperature. It implies that Ratanbabu prefers to bathe with water that is moderately warm, rather than extremely hot or cold.

Lukewarm water is neither hot nor cold.

The correct option is C.

55. **B**

The term 'Modus Operandi' refers to a particular way or method of doing something.

Since option B accurately resembles its meaning,

the correct option is B.

56. **B**

The expression 'well done' is used to express approval or praise for a job or task that has been successfully completed. It acknowledges and recognizes the accomplishment or achievement of the person being addressed.

Since only options A and C reflect this meaning, the correct option is B.

57. **A**

The word 'adroit' is used to refer to someone who is clever or skilful.

Out of the above options, the only word which is opposite to adroit is amateur. Deft, skilled and expert are the synonyms of adroit.

The correct option is A.

58. **D**

A) Out of the phrases, only phrase IV attributes his success to perseverance and hard work. Thus, 'by dint of' will be used in statement A.

B) The phrase 'on behalf of' will be used to appropriately fill the blank of this statement.

Since only option D has matched IV with A and III with D, the correct option is D.

59. **C**

To 'shirk' is to avoid or neglect.

A: 'Avoid' suggests the act of staying away from or keeping clear of a particular task, responsibility, or obligation. This is a synonym for 'shirk'.

B: 'Escape' implies getting away from or eluding a duty or responsibility, often with the intention of avoiding it. This too, is a synonym for 'shirk'.

C: 'Evade' means to dodge or sidestep a task, responsibility, or obligation, usually with the intention of not fulfilling it or escaping its consequences. Thus, this can also be considered a synonym of 'shirk'.

D: "Oppose" is not a synonym of "shirk." "Oppose" means to resist or go against something, which is different from avoiding or evading a task or responsibility.

Thus, the correct option is C.

60. **B**

The passage starts by stating that poetry is the language of the imagination and the passions, relating to whatever gives immediate pleasure or pain to the human mind. Thus, option A can be inferred from the first two lines of the passage

Additionally, the passage mentions that poetry comes home to the bosoms and business of men, and only what comes home to them in the most general and intelligible shape can be a subject for poetry. This implies that poetry revolves around the general and intelligible feelings of the people, which corresponds to option B.

Furthermore, the passage suggests that having contempt for poetry reflects a lack of respect for oneself and other things. This contradicts the idea that contempt for poetry and self-respect are mutually compatible, so option C is not accurate.

Lastly, the passage implies that poetry relates to mankind's sense of beauty, power, and harmony, as seen in the examples of the motion of a wave of the sea and the growth of a flower. This aligns with option D, which states that poetry unavoidably relates to mankind's sense of beauty, power, and harmony.

The correct option is B.

General Awareness

Innovation and Entrepreneurship

81. **A**

A) Benchmarking: Benchmarking is the process of identifying and imitating the best practices and performance of leading organizations or individuals in a specific field. It involves studying and analyzing their methods to improve one's own performance.

B) Outsourcing: Outsourcing refers to the practice of contracting certain tasks or functions to external companies or individuals rather than handling them internally. It is done to leverage external expertise, reduce costs, or focus on core competencies.

C) Quality Circle: A quality circle is a group of employees within an organization who come together voluntarily to identify, analyze, and solve work-related problems. They aim to improve the quality, productivity, and efficiency of their work through collaborative efforts.

D) Continuous Improvement: Continuous improvement is an ongoing effort to enhance processes, products, or services within an organization. It involves identifying areas for improvement, making incremental changes, and monitoring progress to achieve better results over time. It is a fundamental principle of quality management and aims to optimize performance and customer satisfaction.

82. **C**

Estimating and financing funds requirement schemes are offered by various commercial banks, Industrial Development Bank of India (IDBI), Industrial Credit and Investment Corporation of India (ICICI) and Small Industrial Development Bank of India (SIDBI).

Therefore, the answer is option C.

83. **D**

D) Seed Capital

Seed capital refers to the initial funding or investment required to start a new business or project. It is typically used to cover early-stage expenses such as market research, product development, and initial operations. Seed capital is crucial for innovative entrepreneurs as it provides the necessary resources to prove the feasibility of their ideas and attract further funding from investors or venture capitalists.

While the other options mentioned are also important in the context of entrepreneurship and business growth, they are not specifically related to the initial financing stage. Here's a brief explanation of the other options:

A) Development Capital: Development capital is usually sought for expanding or growing an established business. It is used to finance activities such as market expansion, product diversification, or entering new markets.

B) Human Capital: Human capital refers to the skills, knowledge, and expertise possessed by individuals or a workforce. While it is essential for entrepreneurial success, raising human capital is more focused on talent acquisition, training, and development, rather than financing.

C) Structured Capital: Structured capital is a term that is not commonly used in the context of entrepreneurship or project financing. It does not refer to a specific type of funding but rather implies a structured approach to capital management, often involving various financial instruments or arrangements.

In summary, while all of these areas are relevant in entrepreneurship, seed capital specifically addresses the initial financing needs of innovative entrepreneurs.

84. **B**

The stages of design thinking are typically followed as given below in the above sequence. Let me explain each stage briefly:

D. Empathize: This stage involves understanding and empathizing with the needs and experiences of the users or customers for whom you are designing a solution. It involves conducting research, interviews, and observations to gain insights into their perspectives.

E. Define: In this stage, the information gathered during the empathize stage is analyzed to define the problem statement or design challenge. It involves synthesizing the data to clearly articulate the needs, desires, and constraints of the users.

A. Ideate: This stage focuses on generating a wide range of creative ideas and potential solutions to address the defined problem. It encourages brainstorming and divergent thinking to explore multiple possibilities.

C. Prototype: In this stage, selected ideas from the ideation phase are developed into tangible representations or prototypes. Prototypes can be physical models, digital simulations, or any other form that helps visualize and communicate the proposed solutions.

B. Test: The final stage involves testing the prototypes with the target users or customers to gather feedback and evaluate their effectiveness. This iterative process allows for refining and improving the design based on user insights.

Therefore, the correct sequence of stages is D, E, A, C, B.

85. **C**

Statement I is correct, but Statement II is incorrect.

Statement I: Family businesses are always interested in handing over the charge of their business to the next generation. This statement implies that family businesses generally have a desire to pass on their business to the next generation, which is often true. Many family businesses have a long-term perspective and aim to preserve their legacy by entrusting the business to family members.

Statement II: Most startups originate from established family businesses. This statement is incorrect. While some startups may indeed emerge from established family businesses, the majority of startups are actually founded by individuals or teams who are not necessarily connected to a family business. Startups often arise

from innovative ideas, market opportunities, or entrepreneurial ventures unrelated to family business backgrounds.

Therefore, the most appropriate answer is that Statement I is correct, but Statement II is incorrect.

86. **D**

E. Seed capital acquisition: Seed capital refers to the initial funding required to start a business or project. It typically comes from the founders' personal savings, family and friends, or early-stage investors who believe in the idea or potential of the business.

D. Angel Investor financing: Angel investors are individuals or groups who provide funding to early-stage startups in exchange for equity or a stake in the company. Angel investors typically invest their own money and often provide mentorship and guidance to the entrepreneurs.

C. Venture capital funding: Venture capital (VC) funding is provided by specialized investment firms or venture capital funds. These firms invest in startups that have demonstrated significant growth potential and offer high returns on investment. VC funding is usually provided in multiple rounds, with each round aimed at supporting the company's growth and expansion.

B. Procurement of mezzanine financing: Mezzanine financing refers to a hybrid form of financing that combines elements of debt and equity. It is typically used by startups or companies in the later stages of development to fund expansion, acquisitions, or other major initiatives. Mezzanine financing often involves higher interest rates and may include options for converting debt into equity.

A. Initial Public Offer (IPO) issue: An IPO refers to the process of offering shares of a private company to the public for the first time. This stage occurs when a company has reached a level of maturity and growth that allows it to meet the requirements for listing on a stock exchange. An IPO provides the company with access to significant capital from public investors.

Therefore, the correct sequence of conventional stages of startup funding is E, D, C, B, A.

87. **B**

The correct answer is:

B) Atal Tinkering Lab

The Atal Tinkering Lab initiative is a step taken by the Atal Innovation Mission (AIM) in India. Its purpose is to encourage curiosity, creativity, and innovation in young talent. Atal Tinkering Labs are established in schools across India, providing students with access to tools, equipment, and mentorship to explore STEM (Science, Technology, Engineering, and Mathematics) concepts and engage in hands-on tinkering and innovation activities. The aim is to foster a spirit of entrepreneurship and problem-solving among students from an early age.

A) Atmanirbhar Bharat: Atmanirbhar Bharat, also known as "Self-reliant India," is an initiative launched by the Indian government to promote economic self-sufficiency and reduce dependence on imports. It focuses on various sectors such as manufacturing, agriculture, technology, and infrastructure to enhance domestic production, innovation, and entrepreneurship. The initiative aims to create a conducive environment for businesses and startups to thrive and contribute to the growth of the Indian economy.

C) Atal New India Challenge: The Atal New India Challenge is an initiative under the Atal Innovation Mission (AIM) that aims to address specific national and societal challenges through innovative solutions. The challenge invites startups, innovators, and entrepreneurs to propose innovative ideas and solutions to tackle key problems in areas such as healthcare, education, agriculture, infrastructure, and clean energy. Selected participants receive support, mentorship, and funding to develop and implement their solutions.

D) Atal Incubation Centre: Atal Incubation Centres (AICs) are established under the Atal Innovation Mission (AIM) to support and nurture innovative startups and entrepreneurs. These incubation centers provide various resources, infrastructure, mentoring, and networking opportunities to early-stage ventures. AICs aim to facilitate

the growth of startups by providing a supportive ecosystem, access to funding, industry partnerships, and guidance throughout the startup journey.

88. **B**

The most appropriate answer is:

B) Who is in the process of starting a new business.

A nascent entrepreneur refers to an individual who is in the early stages of starting a new business venture. They are actively involved in the process of conceptualizing, planning, and initiating their entrepreneurial endeavor. This stage typically involves conducting market research, developing a business plan, securing funding, and taking the necessary steps to launch the business. Nascent entrepreneurs are often driven by their innovative ideas and entrepreneurial aspirations, and they are actively working towards establishing and growing their new businesses.

89. **B**

The most appropriate answer is:

B) Specific

Goals should be specific for the success of a business plan. Specific goals are clear, well-defined, and focused on particular outcomes or achievements. By setting specific goals, businesses can establish a clear direction and purpose, which helps in guiding decision-making, resource allocation, and performance evaluation. Specific goals provide clarity and allow for better planning and execution, as they outline measurable targets and objectives that can be tracked and evaluated for progress. Overall, specific goals contribute to the effectiveness and success of a business plan by providing a concrete framework for action and progress.

90. **C**

The most appropriate answer is:

A, B, C are correct reasons for the failure of an entrepreneurial venture.

Explanation:

A. Lack of market research: Insufficient market research can lead to a lack of understanding of customer needs, preferences, and market dynamics. This can result in products or services that do not meet market demands, leading to failure.

B. Poor financial control: Inadequate financial management and control can lead to cash flow problems, excessive spending, and poor financial decision-making. These issues can cause financial instability and ultimately lead to the failure of the venture.

C. Poor management: Poor management practices, including weak leadership, ineffective decision-making, and insufficient operational processes, can hamper the overall performance and growth of an entrepreneurial venture. Without strong management, businesses may struggle to adapt, compete, and overcome challenges effectively.

D. Gender of the entrepreneur: Gender should not be a reason for the failure of an entrepreneurial venture. Success or failure depends on various factors, such as market conditions, business strategy, execution, and management skills, rather than the gender of the entrepreneur.

E. Caste of the entrepreneur: Caste should also not be a determining factor for the failure of an entrepreneurial venture. Business success is influenced by various factors such as market dynamics, competitive landscape, product/service quality, customer satisfaction, financial management, and effective leadership rather than the caste of the entrepreneur.

Therefore, options i) and ii) are incorrect as they include reasons (D and E) that are not valid for the failure of an entrepreneurial venture. Option iv) is also incorrect as it does not include all the correct reasons (A and C) for failure. The correct option is iii) A, B, and C are correct reasons for the failure of an entrepreneurial venture.

91. **C**

The buying and selling of manufactured goods are related to the Trading entrepreneur (Option C)

B) Novice entrepreneur: A novice entrepreneur is someone who is new to the world of entrepreneurship and is in the early stages of starting their own business. They may lack significant experience and expertise but are eager to learn and embark on their entrepreneurial journey.

B) Portfolio entrepreneur: A portfolio entrepreneur is an individual who manages multiple businesses or ventures simultaneously. They diversify their investments and interests across different industries or sectors, aiming to create a balanced portfolio of businesses. This type of entrepreneur often seeks opportunities for growth and innovation across various fields.

D) Drone entrepreneur: The term "Drone entrepreneur" is not a commonly used or established category of entrepreneurship. However, it can refer to an entrepreneur who is involved in the drone industry, such as developing, manufacturing, or offering services related to drones. This may include drone photography, drone delivery services, or drone technology development.

92. **A**

A) Both A and R are correct, and R is the correct explanation of A.

Assertion A states that the Industrial Development Bank of India (IDBI) caters to the financial needs of budding industries. This is true as IDBI is a specialized financial institution in India that provides financial assistance and support to various industries, including startups and emerging businesses.

Reason R states that financial constraint is one of the biggest reasons for business failures in entrepreneurship, and there is a need to provide financing support to them. This is also true as many businesses, especially startups and budding industries, face challenges related to lack of adequate financial resources, and providing financing support can help address these constraints and contribute to their success.

In this case, Reason R provides a correct explanation for Assertion A, as it establishes the connection between the IDBI's role in catering to the financial needs of budding industries and the importance of addressing financial constraints to prevent business failures.

Therefore, the most appropriate answer is A) Both A and R are correct, and R is the correct explanation of A.

93. **C**

The Diffusion of Innovation theory is associated with C) Everett Rogers.

Everett Rogers, a professor of communication studies, developed the Diffusion of Innovation theory. This theory focuses on how new ideas, products, or innovations spread and are adopted by individuals and groups within a society or social system. It explains the factors that influence the adoption and diffusion process, such as the characteristics of the innovation, the communication channels, the social system, and the individual's attributes.

Therefore, the correct answer is C) Everett Rogers.

94. **A**

A) Both A and R are correct, and R is the correct explanation of A.

Assertion A states that AICTE (All India Council for Technical Education), UGC (University Grants Commission), NITI Aayog (National Institution for Transforming India), and commercial banks are coming up with many offerings to promote entrepreneurship. This is true, as these entities and institutions in India have indeed taken initiatives to promote and support entrepreneurship. They may provide financial support, mentorship programs, incubation centers, policy frameworks, and other resources to encourage and nurture entrepreneurship.

Reason R states that the government wants to develop a pro-entrepreneurship and supporting environment in the country. This is also true, as governments around the world, including the Indian government, recognize the importance of entrepreneurship for economic growth, job creation, innovation, and overall development. They often implement various policies, initiatives, and collaborations to create an ecosystem that supports and encourages entrepreneurship.

In this case, Reason R provides a correct explanation for Assertion A, as it establishes the connection between the actions of AICTE, UGC, NITI Aayog, commercial banks, and the government's objective of fostering a pro-entrepreneurship and supporting environment.

Therefore, the most appropriate answer is A) Both A and R are correct, and R is the correct explanation of A.
95. **D**

The term 'entrepreneur' has been derived from the French word "entreprendre."

96. **D**

The correct order of sequence is:

- C. Generating a business idea
- D. Performing a project-specific factor analysis
- E. Conducting a pre-feasibility analysis
- A. Carrying out a detailed project analysis
- B. Developing an infrastructure prototype for project development

In this sequence, the project approval process starts with generating a business idea. Then, a project-specific factor analysis is performed to assess the various factors and considerations specific to the project. Next, a pre-feasibility analysis is conducted to evaluate the feasibility and viability of the project. After that, a detailed project analysis is carried out, taking into account all relevant aspects of the project. Finally, an infrastructure prototype is developed for project development.

Therefore, the correct sequence is CDEAB.

97. **A**

A) Both Statement I and Statement II are correct.

Statement I: Venture capital firms are usually organized as limited partnerships. This is generally true as venture capital firms often operate as limited partnerships. Limited partnerships are a common structure for pooling investment capital from various limited partners and managing it through the venture capital firm.

Statement II: A venture capitalist is a money manager who is involved in making risk investments from equity capital with the objective of gaining better returns. This statement accurately describes the role of a venture capitalist. Venture capitalists invest in high-risk ventures or startups using equity capital, expecting to earn significant returns on their investments.

Both statements align with the characteristics and functions of venture capital firms and venture capitalists, making A) Both Statement I and Statement II are correct the most appropriate answer.

98. **A**

A) Both Statement I and Statement II are correct.

Statement I: Urbanization around the world is an opportunity to innovate. This statement is true as urbanization brings about various challenges and demands, such as the need for efficient infrastructure, sustainable transportation systems, affordable housing, and smart city solutions. These challenges provide opportunities for innovation in areas like urban planning, technology, renewable energy, and resource management.

Statement II: Urbanization around the world is an issue because of overpopulation. This statement is also true as rapid urbanization often leads to overpopulation in cities, which can strain resources, infrastructure, and services. Overpopulation can lead to challenges such as overcrowding, increased pollution, traffic congestion, and pressure on housing, healthcare, and education systems.

Both statements acknowledge different aspects of urbanization, one focusing on the opportunities it presents for innovation and the other highlighting the issues arising from overpopulation. Therefore, the most appropriate answer is A) Both Statement I and Statement II are correct.

99. **D**

The most appropriate answer is D) Venture capitalists.

Angel investors are individuals who provide early-stage funding to startups and entrepreneurs in exchange for equity ownership. They typically invest their own personal funds and often provide mentorship and expertise to the companies they invest in.

On the other hand, venture capitalists (VCs) are professional investors who manage funds provided by limited partners. They invest in startups and early-stage companies in exchange for equity and play an active role in the company's growth and development.

While angel investors and venture capitalists both provide funding to startups, they differ in their investment approach, source of funds, and level of involvement. Therefore, venture capitalists are considered to be the opposite of angel investors, making option D) the correct answer.

100. **B**

The characteristic that belongs to low-end disruptive innovation is:

B) It delivers products at a lower cost

Low-end disruptive innovation focuses on providing products or services at a lower cost compared to existing offerings in the market. It aims to reach a segment of customers who are currently underserved or unable to afford the existing products or services. It seeks to disrupt the established market and gain market share by offering a more affordable alternative. This type of innovation often involves simplifying or streamlining processes, utilizing cost-effective materials, or finding innovative ways to reduce production or operational costs.



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