

# **CMAT 2022**

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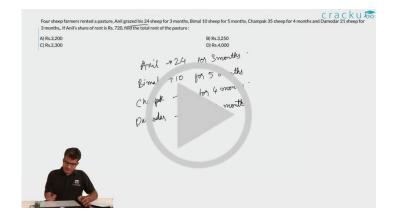
## Quantitative Techniques and Data Interpretation

- **1.** In a batch of 50 students has ratio of Boys to Girls as 4:6. Average marks of Girls are 60 and Average marks of the batch is 62. Average Marks of Boys will be:
  - **A** 61
  - **B** 63
  - C 62
  - **D** 65





- 2. Four sheep farmers rented a pasture, Anil grazed his 24 sheep for 3 months, Bimal 10 sheep for 5 months, Champak 35 sheep for 4 months and Damodar 21 sheep for 3 months,. If Anil's share of rent is Rs. 720, find the total rent of the pasture:
  - A Rs.3,200
  - **B** Rs.3,250
  - C Rs.2,300
  - **D** Rs.4,000



- **3.** A copper wire having length of 243m and diameter 4 mm was melted to form a sphere. Find the diameter of the sphere:
  - **A** 17 m
  - **B** 18 cm
  - **C** 15 cm
  - **D** 20 cm



- 4. If the cost price is 80% of the selling price, then what is the profit in percentage?
  - **A** 20%
  - **B** 25%
  - **C** 16%
  - **D** 22.5%







- **5.** In a bag there are 15 red balls and 10 green balls. Three balls are selected at random. The probability of selecting 2 red balls and 1 green ball is:
  - **A**  $\frac{21}{46}$
  - **B**  $\frac{25}{117}$
  - **C**  $\frac{3}{25}$
  - **D**  $\frac{1}{50}$



- **6.** With an average speed of 40 km/hr, a train reaches its destination in time. If it goes with an average speed of 30 km/hr, it is late by 36 minutes. The total distance travelled by train is:
  - **A** 72 km
  - **B** 78 km
  - **C** 60 km
  - **D** 40 km



- **7.** A man borrows Rs 4000 at 15% compound interest. At the end of each year, he pays back Rs 1500. How much additional amount is required to pay at the end of third year to clear all his dues:
  - A Rs.775.75
  - **B** Rs.973.85
  - **C** Rs.1500
  - **D** Rs.874.75

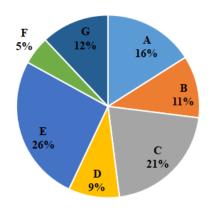






**8.** The following pie chart embodies the details about the per cent production by seven different companies A-G with the total production for all companies at 1500 units.

#### Percentage(%) of Total Production



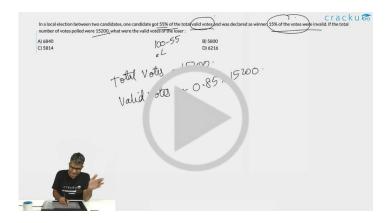
- (A) Companies A & G are producing more than 500 units
- (B) Companies B & F are producing less than 250 units
- (C) Companies C & E account for 705 units
- (D) Companies D & G are producing less than 200 units
- (E) Companies E, F & G account for 545 units

Choose the correct answer from the options given below:

- A Only (A) & (B) are true
- B Only (B) & (C) are true
- C Only (D) & (E) are true
- D Only (A) & (E) are true



- **9.** In a local election between two candidates, one candidate got 55% of the total valid votes and was declared as winner. 15% of the votes were invalid. If the total number of votes polled were 15200, what were the valid votes of the loser:
  - **A** 6840
  - **B** 5800
  - C 5814
  - **D** 6216



- 10. If  $\frac{1}{x}$  is a positive fraction and  $\frac{1}{y}$  is a negative fraction then which of the following statements are true

  - (A)  $\frac{1}{x} + \frac{1}{y}$  is positive (B)  $\frac{1}{x} \frac{1}{y}$  is positive (C)  $\frac{x-y}{xy}$  is negative (D)  $\frac{1}{xy}$  is positive (E)  $\frac{1}{x^2} \frac{1}{y^2}$  is positive

Choose the correct answer from the options given below:

- Only (A) & (B) are true
- Only (B) & (C) are true
- Only (D) & (E) are true
- Only (A) & (E) are true



VIDEO SOLUTION



11. The average age of three friends is 20 years and their ages are in the proportion 2:3:5, the age of the oldest friend is:

- A 12 years
- B 18 years
- C 30 years
- D 40 years
- 12. Match List I with List II. The following table embodies the details about the enrollment of students in five different activities namely Swimming, Singing, Drawing, Dancing and Handicraft in a School during the session 2020-21. A total number of 3000 students including 1750 girls have been enrolled in various activities in the school. Based on the data in the table, match the following:

Activity-wise Enrollment of Students

| I          | Activity-wise Enrollment                                | of Students  |
|------------|---|--|
| Activity   | Percentage (%) of<br>students enrolled<br>(Out of 3000) | Percentage (%)<br>of Girls enrolled<br>(Out of 1750) |
| Swimming   | 16%   | 14%  |
| Singing    | 21%   | 28%  |
| Drawing    | 14%   | 16%  |
| Dancing    | 24%   | 20%  |
| Handicraft | 25%   | 22%  |

| List I                                       | List II    |
|--|------------|
| (A) Boys enrolled in Singing and Handicraft  | (I) 735    |
| taken together                               | (1) 733    |
| (B) Girls enrolled in Swimming and Drawing   | (II) 525   |
| taken together                               | (II) 525   |
| (C) Girls enrolled in Singing and Drawing    | (III) 505  |
| taken together                               | (III) 505  |
| (D) Girls enrolled in Dancing and Handicraft | (III.) 770 |
| taken together                               | (IV) 770   |

Choose the correct answer from the options given below:

- **A** (A)-(II), (B)-(III), (C)-(IV), (D)-(I)
- **B** (A)-(I), (B)-(IV), (C)-(III), (D)-(II)
- **C** (A)-(IV), (B)-(III), (C)-(II), (D)-(I)
- **D** (A)-(III), (B)-(II), (C)-(IV), (D)-(I)
- 13. If a 30 meter ladder is placed against a wall such that it just reaches the top of the wall, if the horizontal distance between the wall and the base of the ladder is 1/3rd of the length of ladder, then the height of wall is:
  - A 25 meter
  - **B**  $20\sqrt{2}$  meter
  - $c \quad 20\sqrt{3}$  meter
  - D 20 meter







#### Instructions [14 - 16]

Consider the following table that shows the percentage (%) distribution of workforce of India and ratio of male to female workforce of India in different employment sectors during a given year. Total workforce in all the sectors put together is 60 lakhs. Based on the data contained in the table, answer the question:

Sector-wise Distribution of Workforce of India

| Sector-wise Dis                     | tribution of Workfo         | rce of India                  |  |  |
|-------------------------------------|-----------------------------|-------------------------------|--|--|
|                                     | Workforce of India          |                               |  |  |
| Employment Sector                   | Percentage (%) Distribution | Ratio of Male to Female (M:F) |  |  |
| Service (SE)                        | 15%                         | 3:02                          |  |  |
| Sales (SA)                          | 12%                         | 5:03                          |  |  |
| Construction and<br>Maintenance(CM) | 9%                          | 5:04                          |  |  |
| Professional (PR)                   | 18%                         | 5:07                          |  |  |
| Management (MA)                     | 21%                         | 3:04                          |  |  |
| Production and Transport (PT)       | 19%                         | 5:03                          |  |  |
| Others (OT)                         | 6%                          | 3:05                          |  |  |

- **14.** The number of male workforce in SA and MA sectors put together is approximately what percent of the total number of workforce in PT sector?
  - A 82%
  - **B** 87%
  - **C** 89%
  - **D** 85%
- **15.** The number of female workforce in SE and PR sectors put together is what percent of the number of male workforce in CM sector?
  - **A** 330%
  - **B** 318%

- C 320%
- **D** 80%
- **16.** The difference in the number of female workforce in SA and MA sectors put together and the number of female workforce in PT sector is :
  - A 5.1 lakhs
  - B 7.5 lakhs
  - C 5.6 lakhs
  - **D** 13.2 lakhs



- 17. One pipe can fill a tank three times as fast as another pipe. If the two pipes together can fill the tank in 36 minutes, then the slower pipe will take how much time to fill the tank alone?
  - A 81 minutes
  - B 108 minutes
  - C 192 minutes
  - **D** 144 minutes



- **18.** A bag contains 6 red balls, 11 yellow balls and 5 pink balls. If two balls are drawn at a random from the bag, one after another. What is the probability that the first ball drawn was red and the second ball drawn was yellow in colour?
  - **A**  $\frac{3}{14}$
  - **B**  $\frac{5}{7}$
  - C ;

**D**  $\frac{1}{14}$ 



#### VIDEO SOLUTION

19. Given below are two statements:

Statement I: The set of numbers (7,8,9,a,b,10,8,7) has an arithmetic mean of 9 and mode(most frequently occurring number) as 8, Then a x b = 120.

Statement II: Let a and b be two positive integers such that  $a + b + a \times b = 84$ , then a + b = 20. 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.** If (x + y) = 3, xy = 2, then what is the value of  $x^3 + y^3$ :

- **A** 6
- **B** 7
- **C** 8
- **D** 9

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## Logical Reasoning

**21.** A statement is followed by assumption I and II. An assumption is supposed to be taken for granted. Consider the statement and the assumptions and decide which of the assumptions is implicit in the statement.

Statement: The Government has decided to relocate all the brick kilns away from the city. Assumption I: Pollution in the city is being caused only because of the brick Kilns in the city Assumption II: Workers shall be able to travel daily to the new site of Brick Kilns

- A Only assumption I is implicit
- B Only assumption II is implicit
- C Either assumption I or assumption II is implicit
- D Neither of the assumption is implicit

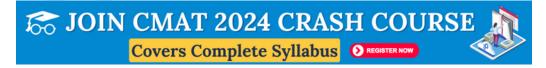
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- 22. Each of the five balls, such as Red, Blue, Yellow, Black and Green is of a different weight. It is known that:
  - (i) Black ball is heavier than the Red and Blue balls.
  - (ii) Yellow ball is lighter than the Red ball.
  - (iii) Blue ball is heavier than the Red and Green balls.

Which ball could be the lightest one?

- A Only Green
- **B** Either Yellow or Green
- C Only Yellow
- D Either Yellow or Red
- **23.** In a college 200 students are randomly chosen. 140 like tea and 120 like Coffee and 70 like both tea and coffee. How many like neither tea nor coffee?
  - **A** 20
  - **B** 30
  - **C** 50
  - **D** 10
- 24. Complete the series; DIT, GMQ, KQM, PUH,\_\_\_
  - A VYB
  - **B** UYB
  - C VXC
  - **D** TUJ



**25.** Ram travelled towards East from his office. After travelling 10 Km, he took a right turn and covered 2 km. Then he took a 45 Degree turn in clockwise direction and travels 3 km. In which direction is he travelling now?

- A North East
- **B** North
- C South West
- **D** South East
- **26.** At 3'O Clock, if Hour hand points towards West, in which direction will the minute hand points at 7.45 p.m.
  - A West
  - **B** East
  - C South
  - D South East
- 27. Given below are two statements: one is labelled as Assertion (A) and the other is labelled as Reason (R)

Assertion (A): Money can resolve most of our problems.

Reason (R): We are living in a hierarchical society.

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



- 28. Complete the series; FAQ, AQF, \_\_\_, FAQ, AQF
  - A QAF
  - **B** OFA
  - C FQA
  - **D** AFQ
- **29.** B, C, D, E, G, H are six persons sitting in a row, not necessarily in the same order. Two persons are sitting between C and G. C is placed to the immediate left of B. D is the first one in the row. C and H are not sitting together. Which one/ones of the following represent/s the correct arrangement of their sitting?
  - (A) D, H, G, E, B, C
  - (B) D, C, B, H, G, E
  - (C) D, G, H, E, C, B
  - (D) D, G, E, H, C, B
  - A Arrangement (A) & (B) are correct.

- B Arrangement (B) & (C) are correct.
- C Arrangement (C) & (D) are correct.
- **D** Arrangement (D) & (A) are correct.
- **30.** 144 is related to 77 in the same way as 168 is related to\_\_\_\_\_.
  - **A** 87
  - **B** 88
  - **C** 65
  - **D** 89



- 31. A device classifies numbers according to the following criteria. The number must have
  - (A) The number has five digits
  - (B) First and last digits are perfect squares.
  - (C) The middle digit is an odd number and it is an addition of first and last digits.
  - (D) Second and fourth digits are the difference between first and third digits, third and fifth digits.

Which of the following number could be correct according to the conditions given above?

- **A** 14514
- **B** 94514
- C 44949
- **D** 93524
- 32. Select the pair which has following type of relationship;

Circle: Circumference

- A Square: Area
- **B** Cylinder: Volume
- C Rectangle: Perimeter
- D Prism: Sides
- 33. Find the odd one among the following:
  - A Cabbage
  - **B** Potato
  - C Onion
  - **D** Lettuce

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- **34.** Six students P,Q,R,S,T and U are sitting around a Hexagonal table each at one corner and facing the center of hexagon. P is second to the left of U, Q is neighbor of R and S. T is second to the left of S. Who is on the right of R?
  - A Q
  - **B** P
  - C S
  - D L
- **35.** Complete the sequence: 24, \_\_, 48, 63
  - A 35
  - **B** 14
  - **C** 37
  - **D** 39
- 36. A is the sister of B's father-in-law. A and C are siblings. D is the husband of B. How is D related to A?
  - A Sister-in-law
  - **B** Brother
  - C Aunt
  - **D** Mother-in-law



- **37.** In the following question, an assertion is followed by two reasons R1 and R2. Read the assertion and the reasons and find which of the reasons is possible.
  - Assertion: The 10th class result is very poor this year.
  - R1: Number of students in 10th class have increased considerably
  - R2: The students of 10th class belong to different sections of society.
  - A Only R1 is possible reason
  - B Only R2 is possible reason
  - C Neither R1 nor R2 are the reasons
  - **D** If both R1 and R2 are the possible reasons
- **38.** Suraj walked 6 m facing towards the west, then he took a left turn and walked a distance of 8 m. He then took a right turn and walked a distance of 6 m. He then walked for 10 m in the north-east direction. Approximately, how far is he from the starting point?

- **A** 8 m
- **B** 10 m
- **C** 6 m
- **D** 2 m
- **39.** In a certain code language, '^' means 'is less than', '#' means 'is greater than' and '\*' means 'is equal to' and given that a^b, c\*d, and c#b, then which of the following is true?
  - A d^a
  - B b#d
  - C a\*c
  - D a<sup>b</sup>c



- **40.** A,B,C,D,E and F are six members of a family. A is mother of B, who is the husband of D. F is the brother of one of the parents of C. D is the daughter in law of E and has no siblings. C is son of D. How is C related to A?
  - A Son
  - **B** Grandson
  - **C** Brother
  - **D** Brother in law



## Language Comprehension

- 41. Choose the option which is opposite in meaning to the following word: Intrepid
  - A Amiable
  - **B** Fiendish
  - **C** Tranquil
  - **D** Cowardly



| 42. Please fill the blanks with the help of correct word from pairs given below and complete the | sentence: |
|--|-----------|
| (elicit / illicit; council / counsel; hoard / horde; dependents / defendants)                    |           |
| (a) He was charged with sale of narcotics.   |           |
| (b) The Chief Minister was given a to keep off the epidemic.                                     |           |
| (c) A of terrorists have attacked the army base.   |           |
| (d) The of the university employees are granted full free-fellowship.                            |           |
|  |           |
| A (a) Elicit; (b) Council; (c) Hoard; (d) Dependents   |           |
|  |           |
| B (a) Illicit; (b) Council; (c) Horde; (d) Defendants  |           |

D (a) Illicit; (b) Counsel; (c) Horde; (d) Dependents43. Pick the appropriate meaning of the underlined idiom in the following sentence:

(a) Elicit; (b) Counsel; (c) Hoard; (d) Defendants

"The lease of our premises has run out."

- A Enfeebled
- **B** Expired
- **C** Increased
- **D** Prolonged
- 44. The word "veteran" means:
  - A A person who has fought elections
  - **B** A person who treats animals
  - C A person who has long experience
  - **D** A person who lives on vegetables

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- **45.** Pick the appropriate meaning of the underlined phrase in the following sentence: "In market economy capital gets <u>lion's share</u> in production."
  - A adequate part
  - B lesser part
  - C larger part
  - D None of these
- **46.** Pick the correct sentence:
  - A He made a fool of certainly himself.
  - **B** Certainly he made a fool of himself.

- C Certainly a fool he made of himself.
- **D** He made a certainly fool of himself.
- 47. Pick the correct option:
  - (I) It is nothing else than pride.
  - (II) It is nothing else but pride.
  - A (I) is correct but (II) is incorrect
  - B (I) is incorrect but (II) is correct
  - C Both (I) & (II) are correct
  - D Both (I) & (II) are incorrect



- 48. Pick the synonym of "confess":
  - **A** Agree
  - **B** Admit
  - C Understand
  - **D** Decide
- **49.** Pick the appropriate meaning of the underlined phrase in the following sentence: "You can be happy only when following the golden mean."
  - A opulent way of life
  - B middle path
  - C golden path
  - **D** meanness

#### Instructions [50 - 53]

Read the following passage and answer the question that follow:

Urbanization - the demographic shift from country to city - began with industrialization, and it has not let up. In 1900, fewer than 15 percent of the world's population lived in cities. Fifty years later, that number had doubled to 30 percent of the world's population of 750 million. By 2000, 2.9 billion people, or 47 percent of the world's population, were living in urban areas, with the greatest growth occurring in Africa, Asia, and Latin America. In 2007, for the first time in history, the urban population exceeded 50 percent, and by 2050, according to World Health Organization (WHO), seven out of ten people will call urban areas home....

Contrary to common belief, fewer than 10 percent of urban dwellers are residents of megacities with populations of over ten million. A megacity consists of the city proper and its adjoining suburban centers. An example is the New York-Newark aggregation, which in 1950 was the world's only megacity; by 2011, it was the sixth largest of 21 megacities. The population of Greater Tokyo, the world's largest urban area and home to 36.7 million residents, is forecast to exceed 37 million by 2020.Megacites Mumbai, Delhi, Dhaka, and Lagos, which do not yet appear on the Top Ten list, are steadily moving up the ladder. About half of the world's urban dwellers live in cities of under half a million people, and these cities continue to outpace megacities in growth.

While the benefits of developed infrastructure, public transportation system, employment opportunities, better health care, and education, plus a wide range of services, make cities the place to live, work, and enjoy, they are plagued with enormous problems. As engines of growth, cities have also become engines of pollution, traffic congestion, waste production, and environmental destruction....

In the 1960s, the concept of urban ecology emerged from the growing awareness of cities' impact on the environment. In 1975, the nonprofit organization Urban Ecology was founded in Berkeley, California, with the purpose of rebuilding cities in balance with nature. The 1992 Earth Summit in Rio de Janeiro established Agenda 21, a plan for the sustainable development of cities, and in 2002, 1,200 representatives (including 200 slum dwellers) from 80 countries participated in the first World Urban Forum, making urban ecology and sustainable eco-cities based on environment, economy, education, equity more than just a nice idea.

- **50.** Match each of the following meanings with the corresponding underlined words/phrases in the numbered items below:
  - (i) Reaching a higher position
  - (ii) Seriously suffering from
  - (iii) The absolute best
  - (iv) Something not very practical
  - A. "Megacities Mumbai, Delhi, Dhaka, and Lagos, which do not yet appear on the Top Ten list, are steadily moving up the ladder."
  - B. "... the benefits of developed infrastructure, public transportation system, employment opportunities, better health care, and education, plus a wide range of services, make cities the place to live, work, and enjoy...."
  - C. "... they are <u>plagued</u> with enormous problems."
  - D. "... making urban ecology and sustainable ecocities based on environment, economy, education, equity more than just a nice idea."
  - **A** A-(i); B-(ii); C-(iii); D-(iv)
  - **B** A-(iv); B-(iii); C-(ii); D-(i)
  - **C** A-(i); B-(iii); C-(ii); D-(iv)
  - **D** A-(iii); B-(ii); C-(iv); D-(i)



- **51.** Megacities are classified according to \_\_\_\_\_\_.
  - A population
  - **B** territorial area
  - C their ecological footprint
  - **D** their GDP
- **52.** Indicate which of the two statements in the following pairs contains a main idea (M) and which contains a supporting details (SD)?
  - (I) Tokyo is the world's largest megacity.
  - (II) Megacities are growing, but not as rapidly as smaller cities.
  - A I-M&II-SD
  - B I-SD & II-M

- C | & || both M
- D | & || both SD
- **53.** What does the phrasal verb "let up" means in the first sentence:
  - A to come to an end
  - **B** to be less successful
  - C not to be working
  - **D** to be less strong



**54.** Select the pair which has the same relationship as the pair below:

Whale: Pod

- A Wolf: Pack
- **B** Plant: Sprout
- C Hand: Fingers
- D Car: Garage
- **55.** Identify the correct direct speech form of the following sentence: My teacher told me that I am not working hard.
  - A My teacher told to me, "You are not working hard."
  - B My teacher said, "You are not working hard."
  - C My teacher said to him, "I am not working hard."
  - **D** My teacher said to me, "You are not working hard."
- **56.** Choose the correct alternative to replace the italicized phrase in the following sentence. In case no improvement is needed, option '4' is the answer. I cannot force her to marrying.
  - A to marry
  - **B** in marrying
  - C for marry
  - D No improvement needed



**57.** Find the correctly spelt word.

- A Klaptomania
- **B** Klepptomania
- C Kleptemania
- **D** Kleptomania
- **58.** Choose the correct verb form to fill in the blanks:

That there would be thunderstorm today was \_\_\_\_\_by the weather experts.

- A foretold
- **B** foreteld
- **C** fortelling
- **D** foretell
- **59.** Choose the correct preposition to complete the sentence:

Roopam hasn't seen her father\_\_\_\_\_ last September.

- A on
- **B** in
- C for
- **D** since



**60.** Choose the correct order of the sentence to create a meaning out of PQRS set:

This work

- P: there emerges a picture spread over three generations
- Q: which depicts the rapidity of change
- R: devotees form a considerable amount of attention to local detail,
- S: and from such a realistic perspective

Codes:

- A PQRS
- **B** RSPO
- C SQPR
- **D** QSPR



### **General Awareness**

61. The term butterfly is associated with

- A Kabaddi
- **B** Boxing
- **C** Swimming
- D Wrestling



- 62. Change in Seasons occur due to
  - (A) Earth's rotation
  - (B) Earth's Revolution
  - (C) Inclination of Earth axis

Choose the correct options from the options given below:

- A (A) and (B) only
- B (B) and (C) only
- C (A) and (C) only
- **D** (A), (B) and (C)
- 63. Which of the following is true regarding Vehicle Scrapping Policy recently announced by the Centre?
  - A State governments have been advised to offer road tax rebate up to 25% for personal vehicles and manufacturers to provide 5% discount on purchase of a new vehicle against the scrapping certificate.
  - State governments have been advised to offer road tax rebate up to 50% for personal vehicles and manufacturers to provide 10% discount on purchase of a new vehicle against the scrapping certificate.
  - State governments have been advised to offer road tax rebate up to 33% for personal vehicles and manufacturers to provide 7% discount on purchase of a new vehicle against the scrapping certificate.
  - State governments have been advised to offer road tax rebate up to 40% for personal vehicles and manufacturers to provide 3% discount on purchase of a new vehicle against the scrapping certificate.
- 64. Article 356 of the Constitution of India provides for
  - A Reservation of the jobs for backward classes
  - **B** Protection of religious monument
  - C Imposition of President's rule in a State
  - **D** Right to Education

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- 65. Prof. Amartya Sen was honoured with
  - (A) UNESCO PEACE Prize
  - (B) BHARAT RATNA

#### (C) NOBEL PRIZE

Choose the correct options from the options given below:

- A (A) and (B) only
- B (B) and (C) only
- C (A) and (C) only
- **D** (A), (B) and (C)
- 66. Given below are two statements:

Statement I: Indian Constitution uses the word 'minority' to mean 'any sections of citizens' having a distinct language, script or culture.

Statement II: This may be a whole community living within a majority community.

In the 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
- **67.** Who among the following was a French journalist and novelist known for his series of 20 novels collectively known as Les Rougon-Macquart?
  - A Jean Paul Sartre
  - **B** Albert Camus
  - C Jean Baudrillard
  - **D** Emile Zola



- 68. The total number of Judges of International Court of Justice is
  - **A** 10
  - **B** 12
  - **C** 15
  - **D** 18
- 69. Match List I with List II

| List I(Constitutional Provisions)          | List II(Adopted from)      |  |
|--|----------------------------|--|
| (A) Charter of Fundamental Rights          | (i) Soviet Constitution    |  |
| (B) The Idea of Residual Powers            | (ii) Canadian Constitution |  |
| (C) The Planning Commission and Five       | (iii) United States        |  |
| year Plan                                  | Constitution               |  |
| (D) Enunciation of Directive Principles of | (in) Iniah Committeetian   |  |
| State Policy                               | (iv) Irish Constitution    |  |

Choose the correct answer from the options given below:

- **A** (A)-(i), (B)-(iv), (C)-(ii), (D)-(iii)
- **B** (A)-(iv), (B)-(i), (C)-(ii), (D)-(iii)
- C (A)-(ii), (B)-(i), (C)-(iv), (D)-(iii)
- **D** (A)-(iii), (B)-(ii), (C)-(i), (D)-(iv)

70. Which form of Indian dance shows influence of Persian culture?

- A Bhangra
- **B** Kathak
- C Rangma
- **D** Chhau



- 71. Choose the correct chronological sequence of the following:-
  - (A) Gandhi-Irwin Pact
  - (B) Nehru Report
  - (C) Non-Cooperation Movement
  - (D) Quit India Movement
  - **A** (C), (D), (A), (B)
  - **B** (C), (B), (A), (D)
  - **C** (B), (C), (D), (A)
  - **D** (B), (C), (A), (D)

72. In banking sector GNPA refers to?

- A Gross Non-performing Advances
- **B** Gross National Performing Assets
- C Gross National Productive Assets
- D Gratuitous Non-performing Advances
- 73. Given below are two statements:

Statement I: Our lungs have two parts - the left and right lungs.

Statement II: structurally two parts of the lungs are different from each other.

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. The first country to be labelled as 'banana Republic' was
  - A Bermuda
  - **B** Honduras
  - C El Salvador
  - **D** Haiti
- 75. Match List I with List II

| List I                | List II         |
|-----------------------|-----------------|
| (A) P.V. Sindhu       | (i) Shooting    |
| (B) Lovlina Borgohain | (ii) Wrestler   |
| (C) Ravi Kumar Dahiya | (iii) Badminton |
| (D) Gagan Narang      | (iv) Boxing     |

Choose the correct answer from the options given below:

- **A** (A)-(ii), (B)-(iv), (C)-(i), (D)-(iii)
- **B** (A)-(iii), (B)-(iv), (C)-(ii), (D)-(i)
- **C** (A)-(ii), (B)-(iii), (C)-(i), (D)-(iv)
- **D** (A)-(ii), (B)-(iii), (C)-(iv), (D)-(i)
- **76.** Given below are two statements:

Statement I: Food is cooked in pressure cooker quickly because it retains heat for a longer period. Statement II: Food is cooked in pressure cooker quickly because boiling point of water increases.

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

- A Both Statement I and Statement II are true, Option ID:-2157,
- B Both Statement I and Statement II are false, Option ID:- 2158,
- C Statement I is true but Statement II is false, Option ID:- 2159,
- D Statement I is false but Statement II is true, Option ID:- 2160,

- 77. On what does the dollar-rupee exchange rate in India depend?
  - A Demand-supply equilibrium
  - **B** Monetary Policy of RBI
  - C Government control
  - **D** The stock market fluctuations
- 78. Match List I with List II.

| List I                     | List II             |
|----------------------------|---------------------|
| (A) The Northernmost Point | (i) Siachen Glacier |
| (B) The Southernmost Point | (ii) Kibithu        |
| (C) The Easternmost Point  | (iii) Sir Creek     |
| (D) The Westernmost Point  | (iv) Indira Point   |

Choose the correct answer from the options given below:

- **A** (A)-(i), (B)-(iv), (C)-(ii), (D)-(iii)
- **B** (A)-(iv), (B)-(i), (C)-(ii), (D)-(iii)
- **C** (A)-(ii), (B)-(i), (C)-(iv), (D)-(iii)
- **D** (A)-(iii), (B)-(ii), (C)-(i), (D)-(iv)
- 79. Who among the following rulers belongs to Slave Dynasty?
  - A Shershah Suri
  - **B** Muhammed Ghori
  - C Shams-ud-din Iltutmish
  - **D** Humayun



80. Given below are two statements:

Statement I: Bodo is one of the scheduled languages of India.

Statement II: Nepali is one of the scheduled languages of India.

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.** 'Shishu', 'Kishore' and 'Tarun' are the three products created by \_\_\_\_\_\_ to signify the stage of growth/development and funding needs of the beneficiary micro unit/entrepreneur and also provide a reference point for the next phase of graduation/growth.
  - A MUDRA Yojana
  - B Jan Dhan Yojana
  - C Ayushman Bharat Yojana
  - **D** None of the above



82. Match List I with List II.

| List I        | List II                            |
|---------------|------------------------------------|
| (A) Raymond   | (i) A gift for someone<br>you love |
| (B) Weekender | (ii) The complete man              |
| (C) Amul      | (iii) I'm loving it                |
| (D) McDonald  | (iv) Wear your attitude            |

Choose the correct answer from the options given below:

- **A** (A)-(i), (B)-(iv), (C)-(iii), (D)-(ii)
- **B** (A)-(iii), (B)-(i), (C)-(iv), (D)-(ii)
- **C** (A)-(ii), (B)-(i), (C)-(iv), (D)-(iii)
- **D** (A)-(ii), (B)-(iv), (C)-(i), (D)-(iii)
- 83. Please select the most appropriate reason for the government's increasing role in business globally
  - A Costs of production have continued to increase
  - B People's attitudes have changed
  - C Products have become very technical
  - D Competition in the marketplace has changed
- 84. Having more than one customer segment:
  - A Can never be beneficial as this makes an entrepreneur lose focus

- B Can never be beneficial as it brings in undesired complexity
- C Can be beneficial as it helps maintain consistent business throughout the year
- D Can be beneficial as it helps reduce costs



- 85. An entrepreneur can get a lot of quality information about competitors from\_\_\_\_\_
  - A Company reports and published accounts
  - **B** Product information leaflets
  - C Websites
  - **D** All the above
- 86. Sequoia capital is a/an:
  - **A** Angel investor
  - B Venture capital firm
  - C Fintech Start-up
  - D None of the above
- **87.** Founders translate company ideas into business model hypotheses, test assumptions about customers' needs, and then create a \_\_\_\_\_\_\_to try out their proposed solution on customers.
  - A Beta version
  - **B** Brand
  - C Minimum viable product
  - **D** Service

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#### 88. Match List I with List II.

| List I                 | List II              |
|------------------------|----------------------|
| (A) OYO Rooms          | (i) Vineeta Singh    |
| (B) Sugar Cosmetics    | (ii) Warren Buffet   |
| (C) Berkshire Hathaway | (iii) Peeyush Bansal |
| (D) Lenskart           | (iv) Ritesh Agarwal  |

Choose the correct answer from the options given below:

- **A** (A)-(ii), (B)-(iii), (C)-(iv), (D)-(i)
- **B** (A)-(iv), (B)-(ii), (C)-(i), (D)-(iii)

- **C** (A)-(iv), (B)-(i), (C)-(ii), (D)-(iii)
- **D** (A)-(i), (B)-(ii), (C)-(iii), (D)-(iv)
- 89. According to Schumpeter, which of the following is the primary function of a new age entrepreneur
  - **A** Creativity
  - **B** Innovation
  - **C** Invention
  - **D** Skill
- **90.** Shruti wants to start a small floral shop. As a part of her business plan, he prepared an "entertaining MS PowerPoint Presentation" to garner interest among potential investors and trigger discussion. This format of business plan is known as
  - A Business Talk
  - **B** Business Plan
  - C Pitch deck
  - **D** Presentation



- **91.** ATAL Innovation Mission aims to create and promote culture of:
  - A Innovation & energy conservation
  - **B** Innovation & Entrepreneurship
  - C Entrepreneurship & energy conservation
  - **D** Strategy and Entrepreneurship
- 92. Which one of the following factors is not relevant for judging the adequacy of market?
  - A Total Present Domestic Market
  - **B** Competitors and their market shares
  - C Export Market
  - **D** Labour Market
- 93. Document that projects the income, expenses, and profits of a business over a multi-year period
  - A Technical Plan
  - **B** Marketing Plan
  - C Financial Plan



#### 94. Match List I with List II.

| List I           | List II                      |
|------------------|------------------------------|
| (Profession)     | (Task - Outcome)             |
| (A) Entrepreneur | (i) Utility Maximization     |
| (B) Manager      | (ii) Get the work done       |
| (C) Retailer     | (iii) Calculated Risk taking |
| (D) Customer     | (iv) Value Addition          |

Choose the correct answer from the options given below:

- **A** (A)-(iii), (B)-(ii), (C)-(iv), (D)-(i)
- **B** (A)-(ii), (B)-(iii), (C)-(iv), (D)-(i)
- **C** (A)-(iv), (B)-(ii), (C)-(i), (D)-(iii)
- **D** (A)-(iii), (B)-(ii), (C)-(i), (D)-(iv)
- 95. Please provide the full form for CGTMSE, a scheme meant for Micro and Small Enterprises
  - A Credit Guarantee Trust for Micro and Small Enterprises
  - **B** Credit Guarantee Fund Trust for Micro and Small Enterprises
  - C Credit Guarantee Fund towards Micro and Small Enterprises
  - D Collateral Guarantee Trust for Micro and Small Enterprises
- 96. Given below are two statements:

Statement I: 'Diversification' means adding new lines of business.

Statement II: Differentiation means creating specialized products that gain competitive advantage with a particular segment of the market.

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



- 97. Which of the following terms appropriately refers to the attractive idea that an entrepreneur invests in?
  - **A** Opportunity

- **B** Possibility
- C Business
- **D** Notion
- **98.** A professional or manager who takes a new initiative for his/her organisation and establish a new distinct business unit for the same organisation can appropriately be referred as:
  - A Business Leader
  - **B** Industrialist
  - **C** Entrepreneur
  - **D** Intrapreneur
- 99. The five phases of the entrepreneurial process are:
  - A Opportunity evaluation, planning, idea generation, growth, company formation/launch
  - B Idea generation, growth, opportunity evaluation, planning, company formation/launch
  - C Idea generation, growth, company formation/launch, opportunity evaluation, planning
  - D Idea generation, opportunity evaluation, planning, company formation/launch, growth



100. Given below are two statements:

Statement I: Ideas should not be examined for their reallife use and application.

Statement II: Business opportunity can be described as an economic idea that can be implemented to create business enterprises and earn profits.

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



### **Answers**

Quantitative Techniques and Data Interpretation

| .D | 2. <b>B</b>  | 3. <b>B</b>  | 4. <b>B</b>  | 5. <b>A</b>  | 6. <b>A</b>  | 7. <b>D</b>  | 8. <b>B</b>  |
|----|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| .C | 10. <b>B</b> | 11. <b>C</b> | 12. <b>D</b> | 13. <b>B</b> | 14. <b>B</b> | 15. <b>A</b> | 16. <b>C</b> |
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#### Logical Reasoning

| 21. <b>B</b> | 22. <b>B</b> | 23. <b>D</b> | 24. <b>A</b> | 25. <b>C</b> | 26. <b>B</b> | 27. <b>B</b> | 28. <b>B</b> |   |
|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---|
| 29. <b>B</b> | 30. <b>D</b> | 31. <b>A</b> | 32. <b>C</b> | 33. <b>B</b> | 34. <b>B</b> | 35. <b>A</b> | 36. <b>C</b> |   |
| 37. <b>C</b> | 38. <b>C</b> | 39. <b>D</b> | 40. <b>B</b> |              |              |              |              | , |

#### Language Comprehension

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

#### General Awareness

| 61. <b>C</b> | 62. <b>B</b> | 63. <b>A</b> | 64. <b>C</b>         | 65. <b>B</b> | 66. <b>A</b> | 67. <b>D</b> | 68. <b>C</b> |   |
|--------------|--------------|--------------|----------------------|--------------|--------------|--------------|--------------|---|
| 69. <b>D</b> | 70. <b>B</b> | 71. <b>B</b> | 72. <b>A</b>         | 73. <b>A</b> | 74. <b>B</b> | 75. <b>B</b> | 76. <b>D</b> |   |
| 77. <b>A</b> | 78. <b>A</b> | 79. <b>C</b> | <b>8</b> 0. <b>A</b> |              |              |              |              | J |

#### Innovation and Entrepreneurship

| 81. <b>A</b> | 82. <b>D</b> | 83. <b>D</b> | 84. <b>C</b>  | 85. <b>D</b> | 86. <b>B</b> | 87. <b>C</b> | 88. <b>C</b> |   |
|--------------|--------------|--------------|---------------|--------------|--------------|--------------|--------------|---|
| 89. <b>B</b> | 90. <b>C</b> | 91. <b>B</b> | 92. <b>D</b>  | 93. <b>C</b> | 94. <b>A</b> | 95. <b>B</b> | 96. <b>A</b> |   |
| 97. <b>A</b> | 98. <b>D</b> | 99. <b>D</b> | 100. <b>D</b> |              |              |              |              | , |

### **Explanations**

Quantitative Techniques and Data Interpretation

#### 1.**D**

Let the number of boys be 4x and number of girls be 6x

Given, 4x+6x = 50

$$x = 5$$

Number of boys = 20 and number of girls = 30

Average marks of girls = 60

Total marks scored by girls =  $60 \times 30 = 1800$ 

Average marks score by batch = 62

Total marks scored by batch =  $62 \times 50 = 3100$ 

Marks scored by boys = 3100 - 1800 = 1300

Average marks of boys =  $\frac{1300}{20}$  = 65

Answer is option D.

#### VIDEO SOLUTION

#### 2.**B**

A:B:C:D =  $24(\frac{3}{12}):10(\frac{5}{12}):35(\frac{4}{12}):21(\frac{3}{12})$ 

A:B:C;D=6: $\frac{25}{6}$ : $\frac{35}{3}$ : $\frac{21}{4}$ 

A:B:C:D=72:50:140:63

Anil's rent =  $\frac{72}{72+50+140+63} \times$  Total rent

$$720 = \frac{72}{325} \times T$$

T = Rs 3,250

Answer is option B.

#### VIDEO SOLUTION

#### 3.**B**

Volume of copper wire melted will be equal to volume of sphere.

Volume of copper wire = Area imes length =  $\pi$   $\left(\frac{2}{10}\right)^2 imes 24300 \ cm^3$ 

Let the radius of sphere be r

$${4\over 3}\pi\;r^3\;=\;\pi\;\left({2\over 10}\right)^2 imes\;24300\;cm^3$$

$$r^3 = 729$$

$$r = 9 cm$$

Diameter of sphere = 2(9) = 18 cm

Answer is option B.

#### VIDEO SOLUTION

#### 4.**B**

Given, cost price is 80% of selling price

$$C.P = 0.8 S.P$$

Profit = 
$$\frac{S.P - C.P}{C.P} \times 100$$
  
=  $\frac{S.P - 0.8S.P}{0.8S.P} \times 100$   
=  $\frac{0.2}{0.8} \times 100$   
= 25%

Answer is option B

#### VIDEO SOLUTION

#### 5. **A**

Number of ways of selecting 2 red balls and 1 green ball =  $15_{C_2}$ .  $10_{C_1}$ 

Number of ways of selecting 3 balls =  $25_{C_3}$ 

Probability of selecting 2 red balls and 1 green ball =  $\frac{15_{C_2}.10_{C_1}}{25_{C_3}} = \frac{21}{46}$ 

Answer is option A.

#### VIDEO SOLUTION

# CMAT 2024 SYLLABUS CMAT 2024 SYLLABUS

#### 6.**A**

Let us consider with average speed of 40 km/hr, train reached its destination in time t hrs with average speed of 30 km/hr, it takes t  $+\frac{36}{60}$  hrs

Distance will be same in both the cases

$$40t = 30t + 18$$

$$t = \frac{18}{10}$$

Distance = 
$$40t = 40 \times \frac{18}{10} = 72 \text{ km}$$

Answer is option A.



#### 7.**D**

Initial amount = Rs 4000

Compounded amount after one year =  $4000\left(1+\frac{15}{100}
ight)=4600$ 

Final amount after one year = 4600 - 1500 = Rs 3100

Compounded amount after at the end of two years =  $3100\left(1+\frac{15}{100}\right)=3565$ 

Final amount at the end of two years = 3565-1500 = Rs 2065

Compounded amount after at the end of three years =  $2065\left(1+\frac{15}{100}\right)=2374.75$ 

Final additional amount at the end of three years = 2374.75-1500 = Rs 874.75

The answer is option D.

#### VIDEO SOLUTION

# 8.**B** Total production = 1500 units

| Company | % of total | Production |
|---------|------------|------------|
| Α       | 16         | 240        |
| В       | 11         | 165        |
| С       | 21         | 315        |
| D       | 9          | 135        |
| Е       | 26         | 390        |
| F       | 5          | 75         |
| G       | 12         | 180        |

- A) A and G production = 240 + 180 = 420 (not greater than 500)
- B) B and F production = 165 + 75 = 240 ( is less than 250)
- C) C and E production = 315 + 390 = 705
- D) D and G production = 135 +180 = 315 (not less than 200)
- E) E, F and G production = 390 + 75 + 180 = 645 (not equal to 545)

Only (B) and (C) are true.

Answer is option B.

### VIDEO SOLUTION

#### 9.**C**

Total number of votes = 15200

15% of total votes are invalid, this implies 85% are valid.

55% of valid votes are secured by winner, this implies 45% of valid votes are secured by loser

Voted secured by loser =  $\frac{45}{100}$  imes  $\frac{85}{100}$  imes 15200 = 5814

Answer is option C.

#### 10.**B**

It is given that  $\frac{1}{x}$  is positive and  $\frac{1}{y}$  is negative, this implies that x is positive and y is negative.

A)  $\frac{1}{x} + \frac{1}{y}$  is positive, we know x is positive, and y is negative, but we cannot conclude which value is greater. Therefore, this may or may not be true.

B) $\frac{1}{x} - \frac{1}{y}$  is positive; we know that x is positive and y is negative. So this statement is definitely true.

C) 
$$\frac{x-y}{xy} = -(\frac{1}{x} - \frac{1}{y})$$

As  $\frac{1}{x} - \frac{1}{y}$  is positive,  $\frac{x-y}{xy}$  is negative and statement is true.

D)  $\frac{1}{xy}$  is negative as x is positive and y is negative. Therefore, the statement is false.

E)  $\frac{1}{x^2}-\frac{1}{y^2}$  is positive only when  $y^2>x^2$ , but we cannot conclude which value is greater. Therefore, this may or may not be true.

Only (B) and (C) are true.

Answer is option B





#### 11.**C**

Given average age of three friends is 20 years

Sum of their ages =  $3 \times 20$  = 60 years

Given, their ages are in ratio 2:3:5. Let their ages be 2x, 3x and 5x

$$2x + 3x + 5x = 60$$

$$10x = 60$$

$$x = 6$$

Their ages are 12 years, 18 years and 30 years

Age of oldest friend = 30 years

Answer is option C.

#### 12.**D**

Total number of students is given and percentage of students enrolled in different activity is given. Calculating number of students participating in each activity, we get

| Activity   | Total Students | Girls | Boys |
|------------|----------------|-------|------|
| Swimming   | 480            | 245   | 235  |
| Singing    | 630            | 490   | 140  |
| Drawing    | 420            | 280   | 140  |
| Dancing    | 720            | 350   | 370  |
| Handicraft | 750            | 385   | 365  |

A) Boys enrolled in singing and handicraft = 140 + 365 = 505 (III)

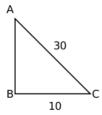
B) Girls enrolled in swimming and drawing = 245 + 280 = 525 (II)

C) Girls enrolled in singing and drawing = 490 + 280 = 770 (IV)

D) Girls enrolled in dancing and handicraft = 350 + 385 = 735 (I)

Therefore, answer is option D.

#### 13.**B**



AC is ladder, C is base of ladder, AB is wall

Given AC = 30 m and BC = 
$$\frac{1}{3}AC$$
 =  $\frac{1}{3}\left(30\right)$  = 10 m

Applying pythagoras theorem,

$$AB^2 + BC^2 = AC^2$$

$$AB^2$$
 =  $30^2 - 10^2$  = 800

$$\mathsf{AB} = 20\sqrt{\,2}$$

Answer is option B.



# 14.**B**Total workforce = 60 lakhs

| Employment sector | %<br>distribution | Workforce<br>(000's) | Ratio<br>Male:Female | Male WF<br>(000's) | Female WF<br>(000's) |
|-------------------|-------------------|----------------------|----------------------|--------------------|----------------------|
| SE                | 15                | 900                  | 3:2                  | 540                | 360                  |
| SA                | 12                | 720                  | 5:3                  | 450                | 270                  |
| CM                | 9                 | 540                  | 5:4                  | 300                | 240                  |
| PR                | 18                | 1080                 | 5:7                  | 450                | 630                  |
| MA                | 21                | 1260                 | 3:4                  | 540                | 720                  |
| PT                | 19                | 1140                 | 5:3                  | 712.5              | 427.5                |
| OT                | 6                 | 360                  | 3:5                  | 135                | 225                  |

Male workforce in SA and MA sectors = 450 + 540 = 990

Total workforce is PT sector = 1140

% required = 
$$\frac{990}{1140}\,\times\,\,100$$
 = 86.8%  $\approx\,\,$  87%

Answer is option B.

15. **A**Total workforce = 60 lakhs

| Employment sector | %<br>distribution | Workforce<br>(000's) | Ratio<br>Male:Female | Male WF<br>(000's) | Female WF<br>(000's) |
|-------------------|-------------------|----------------------|----------------------|--------------------|----------------------|
| SE                | 15                | 900                  | 3:2                  | 540                | 360                  |
| SA                | 12                | 720                  | 5:3                  | 450                | 270                  |
| CM                | 9                 | 540                  | 5:4                  | 300                | 240                  |
| PR                | 18                | 1080                 | 5:7                  | 450                | 630                  |
| MA                | 21                | 1260                 | 3:4                  | 540                | 720                  |
| PT                | 19                | 1140                 | 5:3                  | 712.5              | 427.5                |
| OT                | 6                 | 360                  | 3:5                  | 135                | 225                  |

Female workforce in SE and PR = 360 + 630 = 990

Male workforce in CM = 300

% required = 
$$\frac{990}{300}$$
  $\times$  100 = 330%

Answer is option A.

16. **C**Total workforce = 60 lakhs

| Employment sector | %<br>distribution | Workforce<br>(000's) | Ratio<br>Male:Female | Male WF<br>(000's) | Female WF<br>(000's) |
|-------------------|-------------------|----------------------|----------------------|--------------------|----------------------|
| SE                | 15                | 900                  | 3:2                  | 540                | 360                  |
| SA                | 12                | 720                  | 5:3                  | 450                | 270                  |
| CM                | 9                 | 540                  | 5:4                  | 300                | 240                  |
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| MA                | 21                | 1260                 | 3:4                  | 540                | 720                  |
| PT                | 19                | 1140                 | 5:3                  | 712.5              | 427.5                |
| OT                | 6                 | 360                  | 3:5                  | 135                | 225                  |

Female workforce in SA and MA = 2.7 + 7.2 = 9.9 lakhs

Female workforce in PT = 4.275 lakhs

Difference =  $9.9 - 4.275 = 5.625 \approx 5.6 \text{ lakhs}$ 

Answer is option C.

#### 17.**D**

Let slower pipe fill the tank at the rate x units/ minute.

Faster pipe will fill tank at the rate of 3x units/ minute

Number of units filled by both the pipes in a minute = 4x

Total time taken to fill tank = 36 minutes

capacity of tank =  $36 \times 4x = 144x$ 

Time taken by slower pipe to fill the tank =  $\frac{144x}{x}$  = 144 minutes

Answer is option D.

#### VIDEO SOLUTION

#### 18.**C**

There are 6 red balls, 11 yellow balls and 5 pink balls

Total number of balls = 6 + 11 + 5 = 22

Probability of selecting red ball =  $\frac{6}{22}$ 

After selecting one ball, there are 21 balls left

Probability of selecting yellow ball =  $\frac{11}{21}$ 

Therefore, probability =  $\frac{6}{22} \times \frac{11}{21} = \frac{1}{7}$ 

Answer is option C.

#### VIDEO SOLUTION

#### 19.**A**

Statement I:

Given arithmetic mean of (7,8,9,a,b,10,8,7) is 9 and mode is 8

 $7+8+9+a+b+10+8+7 = 9 \times 8$ 

49+a+b = 72

a+b = 23

It is mentioned that mode is 8, 8 occurred twice and 7 also occurred twice. Therefore, a or b should be 8

If a = 8, b = 15

If b = 8, a = 15

ab = 120

Statement I is true

Statement II:

a + b + ab = 84

1 + a + b + ab = 85

(1+a)(1+b) = 85

 $85 = 1 \times 85 \text{ or } 5 \times 17$ 

It cannot be  $1 \times 85$ , as it is mentioned both a and b are positive integers

If 1+a = 5, 1+b = 17

a = 4 and b = 16

If 1+a = 17, 1+b = 5

a = 16 and b = 4

In both cases, a+b = 20

Statement II is true

Answer is option A.

20.**D** 

Given,

x + y = 3 and xy = 2

$$x^3 + y^3 = (x + y)(x^2 + y^2 - xy)$$

$$x + y = 3$$

squaring on both sides

$$(x+y)^2 = 9$$

$$x^2 + y^2 + 2xy = 9$$

$$x^2 + y^2 = 9-4 = 5$$

$$x^3 + y^3 = 3(5-2) = 9$$

Answer is option D.

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#### Logical Reasoning

#### 21.**B**

The assumption I is not implicit and the assumption is implicit because without assuming this factor relocation will not make sense. Therefore, answer is option B.

From statements (i) and (ii) we can infer that the black ball is heavier than the red, blue and yellow balls since the yellow ball is lighter than the red ball and the black ball is heavier than the red ball.

Similarly from statements (i) and (ii), we can conclude that the black ball is heavier than the green ball. Therefore, the black ball is the heaviest.

Now from statements (ii) and (iii), we can infer that the blue ball is the second heaviest.

It is given that the yellow ball is lighter than the red ball so the red ball cannot be the lightest ball.

Therefore the lightest ball is either the green ball or the yellow ball.

23.**D** 

Tea - A, Coffee - B

 $n(A \cup B) = n(A) + n(B) - n(A \cap B)$ 

 $n(A \cup B) = 140 + 120 - 70 = 190$ 

Number of students who like tea or coffee = 190

Therefore, number of students who like neither tea nor coffee = 200 - 190 = 10

Answer is option D.

#### 24.A

Considering the first letters of each term.

There are 2 alphabets in between D and G (E and F).

There are 3 alphabets between G and K (H, I and J).

There are 4 alphabets between K and P (L, M, N, and O)

Hence, there will be 5 alphabets between P and the required letter. Thus, the required letter will be V (Q, R, S, T and U)

Considering the second letter of each term.

There are three alphabets between each of the second terms, I and M (J, K, L), M and Q (N, O, P), and Q and U (R, S, T).

Hence, there will be three terms between the required term and U, i.e., V, W, X. Thus, the required second term is Y.

Hence, the answer is option A.

#### 25.C

Ram travelled 10 km east and then he turned right which means he is travelling in the south direction now. He travels in the south direction for 2 km. Now he took a 45-degree turn in the clockwise direction which means he is now travelling in the south-west direction

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#### 26.**B**

The minute hand at 7:45 will point in an opposite direction to the hour hand at 3'O clock. Therefore, as the hour hand at 3'O clock points in the east direction so the minute hand at 7:45 will point in the east direction.

#### 27.**B**

In the given question, both assertion and reason are correct. Given two statements are not related to each other in any way. Therefore, the reason is not the explanation of assertion.

Answer is option B.

#### 28.**B**

From the 2nd term onwards,

1st letter of every term is 2nd letter of the previous term

2nd letter of every term is 3rd letter of the previous term

3rd letter of every term is 1st letter of the previous term

2nd term is AQF so as per the above logic third term will be QFA.

29.**B** 

C is to the immediate left of B but in option (A) B is to the immediate left of C so option (A) is eliminated.

C and H are not sitting together but in option (D) C and H are sitting together so option (D) is also eleiminated.

$$\frac{144}{2} + 5 = 77$$

Similarly,

$$\frac{168}{2} + 5 = 89$$

Answer is option D.



#### 31.**A**

5 digit number - \_ , \_ , \_ , \_ ,

It is given that first and last digit is a perfect square, it can be 0, 1, 4, 9

It is mentioned that middle digit is sum of first and last digits; therefore, 9 cannot be one of the digits.

It is mentioned that the second and fourth digits are the difference between first and third digits, third and fifth digits. Therefore,

Answer is option A.

#### 32.**C**

Circumference is perimeter of the circle. Therefore, rectangle:perimeter is the correct option.

Answer is option C.

#### 33.**B**

Since the potato grows under the ground while the other three grow above the ground so the potato is the odd one out.

#### 34.**B**

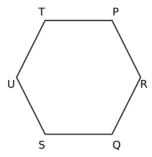
It is given that,

Q is neighbour of R and S, and T is to the second left of S. Therefore, the only possible arrangement is



It is given that, P is to the second left of U.

Final arrangement:



P is to the right of R.

Answer is option B.

35.A

All the terms are of the form  $x^2 - 1$ 

 $5^2 - 1 = 24$ ,  $7^2 - 1 = 48$ ,  $8^2 - 1 = 63$  therefore  $6^2 - 1 = 35$  is the correct answer.



36.**C** 

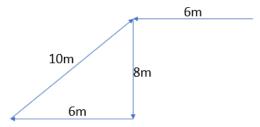
It is given that A is the sister of B's father-in-law and D is B's husband so from this we can conclude that A is the sister of D's father. Therefore, A is D's aunt.

37.**C** 

None of the reasons is explaining why the 10th class result is very poor. So option C is the answer.

38.**C** 

Plotting the course taken by Suraj, we get the below figure.



Hence, the answer is option C.

39.**D** 

a^b means a is less than b.

c\*d means c is equal to d.

c#b means c is greater than b.

So from the above statements, we can conclude that c=d > b > a.

40.**B** 

A is the mother of B and B is the husband of D so A is the mother-in-law of D.

D is the daughter-in-law of E which means that E is the husband of A and father of B.

C is the son of D, therefore C is the grandson of A and E.



Language Comprehension

41.**D** 

intrepid - fearless

Cowardly means lack of courage. Therefore, option D is most appropriate one.

#### 42.**D**

- a. "elicit" means "to evoke a reaction" while "illicit" means "illegal/forbidden by law". For the given sentence, "illicit" is the right choice.
- b. "council" means "a group of people selected for a certain administrative job", whereas a "counsel" means "to give advice". Concerning the given sentence, "counsel" is the correct choice.
- c. "hoard" means "to store", and "horde" means "a large group of people". Thus, "A horde of terrorists" will be the correct phrasing.
- d. "The dependents of the university employees" is the right choice for the given sentence.

Hence, the answer is option D.

#### 43.**B**

- A. "Enfeebled" means to become weak.
- B. "Expired" means to end.
- C. "Increased" means to become greater in size/value.
- D. "Prolonged" means to be increased.

In the given sentence, the phrase "run out" means to come to an end. Out of the options, B is the correct answer.

#### 44.C

veteran - a person who has lot of experience in a particular activity or job.

Therefore, answer is option C.

#### 45.C

The phrase "the lion's share" means "a bigger portion". Out of the options, C gives the correct answer.



#### 46.**B**

The grammatically correct sentence among the options is B: " Certainly he made a fool of himself.

"Certainly" is used to emphasize something.

#### 47.**B**

Out of the two given sentences, (ii) is the correct one because "else" is used with "but".

Hence, the answer is option B.

#### 48.**B**

confess - admit, acknowledge

Answer is option B.

#### 49.**B**

The phrase "to follow the golden mean" means to do things in moderation and avoid the extremes. In other words, it means to follow a middle path. Hence, the answer is option B.

#### 50.**C**

- (i) Reaching a higher position: this means to get ahead or move up in standing. Thus, it corresponds to "moving up the ladder" in A.
- (ii) Seriously suffering from: This is the definition of the word 'plagued' mentioned in C.
- (iv) Something not very practical: "just a nice idea" mentioned in D refers to something that is good but not practical.

Hence, the answer is option C.



#### 51.A

In the second paragraph, the author mentions, "Contrary to common belief, fewer than 10 percent of urban dwellers are residents of megacities with populations of over ten million." After this, he/she goes on to list some of the megacities and their populations.

Hence, we can infer that megacities are classified on the basis of their population.

#### 52.**B**

In the passage, the author talks about megacities, growth in smaller cities, pollution and urban ecology. He does not focus on any one city and hence, statement (2) will be the main idea of the passage.

Statement (1) just talks about Tokyo, which is just one of the examples mentioned by the author. Thus, it will be part of the side details.

Hence, option B is the answer.

#### 53.**D**

"Urbanization - the demographic shift from country to city - began with industrialization, and it has not let up."

The above line means that the urbanization process began with industrialization and hasn't lost its intensity yet. Thus, the phrase "let up" means to lose intensity or "become less strong".

Hence, option D is the answer.

#### 54. A

A group of whales is known as a pod. Hence, the second term of the relationship gives the name of the group of the first term.

A group of wolves is called a pack. Hence, the answer is option A.

#### 55.**D**

Option A is incorrect as it cannot be told to me. It should be either told me to said to me.

Options B and C doesn't give the same meaning as the given sentence. In option B, it doesn't refer you to anyone in particular. Therefore, the meaning doesn't remain the same.

Option D is the correct direct speech form.

Answer is option D.



#### 56.**A**

In the given sentence, the object is of the form "to + infinitive". The infinitive is always the first form of a verb. Hence, correct alternative is "to marry".

#### 57. D

The correct word is "Kleptomania" which means "a recurrent urge to steal". Hence, the answer is option D.

#### 58.A

By reading the sentence, we can observe that it is in the past tense. The past form of "foretell" is "foretold".

Hence, the answer is option A.

#### 59 D

A. "on" is used when a specific date or day is mentioned. For example, "on Saturday".

- B. "in" is used with a specific period of time. For example, in a year, in a week, etc.
- C. "for" is used when a specific time period is mentioned. For example, "for a year"

D. "since" is the correct answer as it is used with the starting of a particular period. For example, since last summer, since yesterday.

60.**B** 

P and Q form a pair in which Q describes the "picture spread" mentioned in P.

R and S also form a pair such that the "realistic perspective" mentioned in S refers to the "local detail" mentioned in R.

RS precedes PQ since the details mentioned in PQ about the picture spread are elaborating the realistic perspective and attention to detail mentioned in RS.

Hence, the correct order of sentences is RSPQ.



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