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DATA SUFFICIENCY

Directions for Q1 -Q7:
Each of the following questions is followed by two statements. Mark
Answer (A) if statement I alone is sufficient to answer the question.
Answer (B) if statement II alone is sufficient to answer the question.
Answer (C) if both statement I and II together are necessary to answer the question.
Answer (D) if both statements I and II together are not sufficient to answer the question.

1. Is 'b' positive?
   I. a + b is positive.
   II. a - b is positive.

2. In a general body election, 3 candidates, p, q and r were contesting for a membership of the board. How many votes did each receive?
   I. p received 17 votes more than q and 103 votes more than r.
   II. Total votes cast were 1703.

3. Is country X's GDP higher than country Y's GDP?
   I. GDP of the countries X and Y has grown over the past five years at compound annual rates of 5% and 6% respectively.
   II. Five years ago, GDP of country X was higher than of the country Y.

4. What is the value of $a^3 + b^3$?
   I. $a^2 + b^2 = 22$.
   II. $ab = 3$.

5. Total marks obtained by P, Q, R and S in Mathematics is 360. How many marks did P secure in Mathematics?
   I. P secured one-third marks of the total of Q, R and S.
   II. Average marks obtained by Q and R are 20 more than that secured by S.

6. How many ice cubes can be accommodated in a container?
   I. The length and breadth of the container is 20 cm and 15 cm respectively.
   II. The edge of the ice cube is 2 cm.

7. Ram got Rs 1500 as dividend from a company. What is the rate of interest given by the company?
   I. The dividend paid last year was 10%.
   II. Ram has 350 shares of Rs 10 denomination.

   Directions for Q8 - Q10:
   Each of questions consist of question followed by two statements numbered I and II

Answer (A) if data in Statement I alone is sufficient to answer the question but the data in Statement II alone is not sufficient to answer the question.
Answer (B) if data in Statement II alone is sufficient to answer the question but the data in Statement I alone is not sufficient to answer the question.
Answer (C) if data in Statement I and II together are necessary to answer the question.
Answer (D) if data in Statement I and II together are not sufficient to answer the question.

8. Is $\triangle ABC$ and $\triangle PQR$ are congruent
   I. Area of $\triangle ABC$ and $\triangle PQR$ are same
   II. $\triangle ABC$ and $\triangle PQR$ are right angle Triangles

9. Salary of A and B is in ratio 3:4 and expenditure is in ratio 4:5. What is the ratio of their saving?
   I. B's saving is 25% of his salary.
   II. B's salary is Rs 2500.

10. What is the average height of the class?
    I. Average height of the class decreases by 1 cm if we exclude the tallest person of the class whose height is 56 cm.
    II. Average height of the class increases by 1 cm if we exclude the shortest person of the class whose height is 42 cm.

Directions for Q11 to Q50:
Each problem contains a question and two statements, A and B, giving certain data. You have to select the correct answer from (1) to (5) depending on the sufficiency of data given in the statements to answer the question.
Choose A: if statement I alone is sufficient and statement II alone is not sufficient to answer the question.
Choose B: if statement II alone is sufficient and statement I alone is not sufficient to answer the question.
Choose C: if statements I and II together are sufficient but neither statement alone is sufficient to answer the question.
Choose D: if each statement alone is sufficient to answer the question.
Choose E: if both statements I and II together are not sufficient to answer the question and additional data specific to the problem are needed.

11. What is the pass percentage for an exam conducted by ABC University?
    I. A candidate scoring 25% of the total marks fails by 30 marks.
    II. A candidate scoring 50% of the total marks gets 20 marks more than pass marks.

12. A scooter was parked in a parking lot for 10 days. For the first seven days, what was the average cost per day for parking?
    I. The total cost for parking for 10 days was Rs. 30.50, which included the rate of Rs. 2 per day for each day after the first seven days.
    II. The average cost per day for parking, all 10 days was Rs. 3.05.

13. The number of soldiers in a parade is less than 250. How many soldiers are there?
    I. The soldiers can arrange themselves in rows of 3, 5 and 7.
    II. The number of soldiers is an even number.

14. For a company xyz, were the profits of 1981 greater than those 1982?
I. Company's sales, in 1982 were greater than the sales in 1981.
II. Profits of 1982 were 1.25 times the average of the profits of 1981 and 1982 together.

15. What is the rate of compound interest given by a bank?
I. A deposit of Rs. 3000 becomes Rs. 3300 in three years.
II. The interest received on Rs. 8000 is Rs. 560.

16. What is the percentage of students who are not intelligent?
I. The ratio of number of boys and girls is 3 : 2.
II. 20% of the boys and 20% of the girls are intelligent.

17. Is the sum of the costs of a TV and a sofa more than the sum of the costs of a VCR and a table?
I. 30% of the cost of the TV and 20% of a cost of the sofa is more than 40% of a cost of the VCR and 60% of the cost of table
II. 20% of the cost of the TV and 30% of the cost of the sofa is less than 10% of the cost of the VCR and 15% of the cost of the table.

18. What is the greatest common divisor of the integers p and q?
I. The greatest common divisor of 2p and 2q is 10.
II. Both p and q are odd.

19. When integer p is divided by 2, the remainder is 1. What is the remainder when p is divided by 4?
I. When p is divided by 8, the remainder is 3.
II. p is a multiple of 5.

20. A and B are solutions of water and glycerine. If solution C consists of 2 parts of A and 3 parts of B, then what percent of solution C will glycerine form?
I. Solution A contained 10% glycerine and solution B contained 3% glycerine
II. There was a total of 10 litres of the solution C

21. What is the compound interest earned on the sum of Rs. 10,000 for 2 years?
I. If the rate of interest had been 2 percentage points more, an additional interest of Rs. 444 would have been earned.
II. At the same rate of simple interest, the interest earned in 2 years would have been Rs. 2000.

22. Given that $p^q = r^q$ where q is a whole number. Is p = r?
I. q is divisible by 3.
II. q is odd.

23. What is the total income of Anand, Bhargav and Charan?
I. Income of Anand is Rs. 300.
II. 25% of Anand's income is equal to 15% of Bhargav's income, which in turn is equal to 20% of Charan's income.

24. When a table and a chair are purchased, 11% of the price of the table is given as a discount on the price of the chair while no discount is offered on the price of table. What is the total amount actually paid for the two items purchased after the discount?
I. Before the discount, total price of the chair and table is Rs. 500 and the price of the table

is Rs. 200 more than that of the chair.
II. After discount, the price of the chair is reduced by Rs. 38.50 from Rs. 150

25. If n is an integer and $10 < 3^n < 300$, then what is the value of n?
I. n is the square of an integer.
II. 3^n is the square of an integer.

26. Find $x + y$ where x and y are non-negative integers.
I. $2^x + 3^y = 17$.
II. $9^x + 8^y = 145$.

27. What is the profit percentage when two varieties of rice priced at Rs. 6 per kg and Rs. 8 per kg respectively are mixed and sold at Rs. 9 per kg?
I. The total quantity of mixture sold was 10 kg and the total cost of the mixture was Rs. 68.
II. Two varieties of rice costing Rs. 6 per kg and Rs. 8 per kg are mixed in the ratio of 3 : 2

28. How long will it take for a deposit to become, four times itself at simple interest?
I. The fixed deposit is Rs. 50000.
II. The rate of interest is 8% p.a.

29. What percentage of the employees of company X are assistants?
I. Exactly 40% of the men and 55% of the women are assistants.
II. The ratio of the number of assistants to the number of non-assistants is 9 : 11.

30. A bike can be purchased by paying a down payment plus five (interest free) installments. What is the price of the bike?
I. Each installment is Rs. 600.
II. Down payment is 40% of the total price of the bike.

31. Between A and B, one always tells the truth (truth teller) and the other always lies (liar). Who is the truth teller?
I. A said, "We both are liars".
II. B said, "We both are truth tellers"

32. Six person A, B, C, D, E and F, among whom there are two couples and two bachelors, are sitting around a circular table. Each married person is neither opposite nor adjacent to his/her spouse. Is F a bachelor?
I. D and E are sitting together and none of them is a bachelor. A and B are opposite each other.
II. C, who is one of the married persons, is to the immediate right of A. B is a bachelor.

33. Did David writes a letter to Paddy today?
I. David wrote a letter to Molly yesterday.
B. David writes a letter to Paddy, only if he has written a letter to Molly the previous day.

34. What is the area of the triangle?
I. One of the sides of the triangle is on the y-axis.
II. Two of the sides lie on x + y = 1 and x - y = 1.

35. Each of A, B and C make two statements either both true or both false. They are from different cities Mumbai. Delhi and Kolkata. A said "Exactly two of us are truth tellers and C is from Delhi". Who is from Kolkata?

I. B said, "Exactly two of us are liars. C is from Mumbai".
II. C said, "A is from Delhi. B is from Kolkata".

36. Find the total distance between two stations A and B. Given the A is to the west of B.
I. There are four stations between A and B with the distance between the two neighboring middle stations being 160 km.
II. For any station, the distance when compared to the immediate next station towards east is twice that towards west

37. In a colony, 100 people read "The Hindu". 30 among them also read "The Express". How many read "The Express"?
I. 40% of the people who read "The Express" do not read "The Hindu"
II. 20% of the people read neither of the newspapers

38. What is the area of the square ABCD?
I. The midpoints of AB and CD are (1, 4) and (1, 8) respectively.
II. The point of intersection of the diagonals is (2, 10) and one of the vertices of the square is (4, 6).

39. A team of four persons is to be selected from six persons A, B, C, D, E and F, such that at most one of C and E can be selected. Which pair of persons will always be selected?
I. If C is selected, then D must not be selected.
II. If D is selected, then A must not be selected.

40. Akash is to the east of Bala and to the south of Dhruv. In which direction is Akash located with respect to Chandru?
I. Bala is to the north of Eric, which is to the west of Chandru.
II. Fahad is to the east of Dhruv and to the north of Chandru.

41. Some jugs are mugs. All mugs are rugs. All rugs are hugs. Is Albert a hug?
I. Albert is a jug.
II. Albert is a mug.

42. How many letters are there in the word? (There is no repetition of the letters in the word)
I. The number of ways of choosing 3 letters such that two of them are consonants and one is a vowel is 24.
II. The number of ways of choosing 4 letters containing at least 3 vowels is 16.

43. Is Pradip the tallest person in his office?
I. There is nobody in the office who is taller than Pradip.
II. Not all the employees in the office are shorter than Pradip.

44. Five professors P, Q, R, S and T have to give seminars on five different days of a week., Monday through Friday, such that P and Q cannot give seminars on consecutive days. On which day does S give the seminar?
I. R gives the seminar on the day immediately following the day on which S gave the seminar.
II. P gave the seminar on the third day following the day on which T gave the seminar

45. Ram is taller than Shyam and Jay is shorter than Vikram. Who is the shortest among them?
I. Ram is the tallest.
II. Shyam is taller than Vikram.

46. There are some ladies and some gentlemen in a group. How many persons are in the group?
I. The probability of selecting 3 persons from the group such that at least 1 lady is included is $\frac{31}{35}$.
II. The probability of selecting 3 ladies in the group is $\frac{1}{35}$.

47. When does a wall clock show the correct time? I. The clock previously showed the correct time at 7 O'clock on Wednesday
II. The clock is 12 minutes fast on Sunday at 10:00 a.m. and is 12 minutes slow on the same day at 10:00 p.m.

48. If the first day of a month is Monday, what will be the first day of the next year? I. It is not a leap year.
II. The first day of the given month, which is in the second half of the year, coincides with the first day of the first month of that year.

49. If P is the father of Q, then how is M related to P?
I. Q's only cousin's, only cousin's only aunt is M.
II. M is the only daughter of N, who is the grandfather of Q

50. How much time does a frog, which is at the bottom of the well, take to come out of the well?
I. Every hour the frog moves up and slips down. In this process, it changes its position by one metre upward for every hour.
II. The well is seven metres deep.

ANSWER KEY

1. D	2. C	3. D	4. D	5. A	6. D	7. B	8. D	9. A	10. C
11. C	12. A	13. C	14. B	15. E	16. B	17. D	18. A	19. A	20. A
21. E	22. B	23. C	24. D	25. D	26. B	27. D	28. B	29. B	30. C
31. D	32. E	33. C	34. C	35. E	36. C	37. C	38. D	39. B	40. B
41. B	42. D	43. E	44. C	45. B	46. E	47. B	48. C	49. C	50. E