

# BANK EXAMS

## QUANTITATIVE APTITUDE

### DATA SUFFICIENCY

Data sufficiency questions consist of a question followed by two/ three statements. Your job is to decide whether the information in the statements (taken single or together) is sufficient to answer the question.

What makes Data Sufficiency problems appear difficult at first is the complicated directions. But once you become familiar with the directions, you'll find these problems not difficult than standard arithmetic problems. These questions require much less calculation than standard problem solving. Evaluate rather than calculate.

Here are some tips:

- ★ Write down what you absolutely need in order to find certain quantities. If you know what information you need to solve the question, then you can find in which statement you get it.
- ★ Don't look at the statements together. Try all the possibilities offered by each statement individually whether it is sufficient to solve the question. If not try with two statements and then three.
- ★ Understand when it is actually necessary to solve equations. If the question asks for the value of  $x$  and you write down the problem to an equation like  $10x + 200 = 12 \times 3500$ , don't waste your time solving for  $x$ ! It's only important to know that you could solve if you wanted to.
- ★ Be on the lookout for statements that give no new information. The area of a square, for instance, contains just as much information as the side length of the square. If you know the area, you can find the side length; conversely, if you know the side length, you can find the area.

### MODEL QUESTIONS

**Directions (Q. 1 – 9):** Each of the questions below consists of a question and two statements numbered I and II are given below it. You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and give answer:

- (1) If the data in Statement I alone is sufficient to answer the question, while the data in Statement II alone is not sufficient to answer the question.
  - (2) If the data in statement II alone is sufficient to answer the question, while the data in Statement I alone is not sufficient to answer the question.
  - (3) If the data in Statement I alone or in Statement II alone is sufficient to answer the question.
  - (4) If the data in both the Statements I and II are not sufficient to answer the question.
  - (5) If the data in both the Statements I and II together are necessary to answer the question.
1. What is the cost of fencing the square field at Rs.75 per metre?  
I. Measure of the diagonal of the square field is 70 m.  
II. The perimeter of the square field is equal to the circumference of a circular field.
  2. What is the rate of interest percent per annum?  
I. The Simple interest received on an amount of Rs.12,600 at the end of 3 years is Rs.1,512.  
II. An amount doubles itself in 3 years with compound interest.
  3. What is the total number of males in the organisation?  
I. 55% of the staff consists of male employees.  
II. The number of females in the organization 9.
  4. What is the two-digit number?  
I. The sum of the two digits of the number is 11.  
II. The number obtained by interchanging the two digits of the number is lesser than the original number by 9.

5. What is Pavani's present age?  
I. Her brother was 8 year old 3 years ago.  
II. The difference between the ages of Pavani and her brother at present is 3 years.
6. What is the lateral surface area of the cylinder?  
I. The height of the cylinder is 7 m.  
II. The diameter of the base of the cylinder is 12 m.
7. What is the total number of students who sit in rows and columns?  
I. The number of columns is more than the number of rows.  
II. 5 students sit in each row and there are 12 rows.
8. What is the length of the bridge?  
I. Train crosses the bridge in 24 seconds.  
II. The speed of the train is 60 kmph.
9. What is the amount lent at simple interest?  
I. The difference between the compound interest and simple interest for 2 years at 5% rate is Rs.12.50.  
II. The simple interest earned in 5 years is equal to the Principal.

**Directions (Q.10 – 14):** Each of the following questions below consists of a question and three statements denoted A, B and C. You have to study the questions and the statements and decide whether the question can be answered with any one or two or all of the statements together.

10. What is the profit on selling 5 books?  
A. The cost price of 3 books is Rs.105  
B. Rs.25 profit is made on each book  
C. Selling price of a book and a pen is Rs.45  
1) B only                      2) A & C                      3) Any one                      4) All the three  
5) None of these
11. Find the percentage change in the area of the rectangle.  
A. The length of the rectangle is increased by 10%  
B. The breadth is increased by 15%  
C. The area of the rectangle is 250 sq.m  
1) A & C                      2) only C                      3) A & B                      4) All the three  
5) None of these
12. What is the bigger number of the two?  
A. The product of the two numbers is 96  
B. The difference of two numbers is 4  
C. The sum of two numbers is 20  
1) A & B                      2) B & C                      3) Any two                      4) All the three  
5) None of these
13. Find the volume of a cone.  
A. Lateral surface area of the cone is 550 sq.cm  
B. Area of a square, whose side is equal to the radius of the base of the cone is 49 sq.cm  
C. Height of the cone is 24cm  
1) A & B                      2) B & C                      3) Any two                      4) 1 & 2  
5) None of these

14. What is the value of  $8x + 5y$  ?

A.  $14y - 56 = 0$

B.  $x^2 - 11x + 30 = x^2 - x$

C.  $x^2 - 2xy + y^2 - 1 = 0$

1) A & B

2) B & C

3) A & C

4) All the three

5) Any two

**ANSWERS**

1-1; 2-3; 3-5; 4-5; 5-4; 6-5; 7-2; 8-4; 9-1; 10-1; 11-3; 12-3; 13-4; 14-5.

**EXPLANATIONS**

1. From statement I

Diagonal =  $\sqrt{2} \times \text{side} = \sqrt{2} \times 70$

Cost =  $\sqrt{2} \times 70 \times 75$

We can't get anything from II

2. From Statement I

Principal, Interest and Time are given we can findout Rate

From Statement II

Let the principal be Rs.100

Amount = Rs.200

Time = 3 years

$\therefore$  We can findout Rate

3. From Statement I

55% of the staff are males

$\therefore$  45% of the staff are females

From Statement II

Number of females is 9

45% of the staff is 9

$\therefore$  Total Staff =  $\frac{100}{45} \times 9 = 20$

$\therefore$  Both statements are required

4. Let the digits of the number be x and y

Two digit number is  $10x + y$

From Statement I

$x + y = 11$

From Statement II

$(10x + y) - (10y + x) = 9$

By solving both the equations we can get x and y values

$\therefore$  Both the statements are sufficient

5. It is not mentioned weather Pavani is younger or elder to her brother

6. Lateral surface area of cylinder =  $\pi r^2 h$

From I, we can get height

From II, we can get radius

$\therefore$  both are required to get the answer

7. We can't get anything From I  
From II, rows = 12 and columns = 5  
 $\therefore 12 \times 5 = 60$  students
8. Both are not sufficient as length of the train is not given.

9. From I,  $\frac{P \times R^2}{100^2} = 12.5$ ,  $R = 5\%$   
$$\frac{P \times 5^2}{100^2} = 12.5 \Rightarrow P = 5000$$

We can't get anything From II.

11. Let the length and breadth of the rectangle be 10 and 10  
Area =  $10 \times 10 = 100$   
from Statement A, new length = 110% or  $10 = 11$   
from Statement B,  
new breadth = 120% of 10 = 12  
new area = 132

$$\therefore \text{Percentage change} = \frac{132 - 100}{100} \times 100$$
$$= 32\%$$

$\therefore$  Only statements A and B are sufficient

12. Let the numbers be x and y  
From A,  $x \times y = 96$   
From B,  $x - y = 4$   
From C,  $x + y = 20$

By taking any two statements, we can solve equations and get x, y values

13. Volume of cone =  $\frac{1}{3} \pi \times r^2 \times h$

from statement A,

$$\text{Lateral surface area} = \pi r l = 550$$

from B, we get radius of cone

from A & B we get radius and height

$$(Qh^2 = l^2 - r^2)$$

A and B are sufficient

from B and C we get radius and height

B and C also sufficient

14. By taking any two statements, we can solve equations and get x, y values

Writer: Dr. G.S. Giridhar