

## CAT 2010 QA Slot 2 Question Paper

<b>Time Allowed :3 Hours</b>	<b>Maximum Marks :300</b>	<b>Total questions :100</b>
------------------------------	---------------------------	-----------------------------

### General Instructions

**Read the following instructions very carefully and strictly follow them:**

1. **Duration of Section:** 40 Minutes
2. **Total Number of Questions:** 22 Questions (as per latest pattern, may vary slightly)
3. **Section Covered:** Quantitative Aptitude (QA)
4. **Type of Questions:**
  - Multiple Choice Questions (MCQs)
  - Type In The Answer (TITA) Questions – No options given, answer to be typed in
5. **Marking Scheme:**
  - +3 marks for each correct answer
  - -1 mark for each incorrect MCQ
  - No negative marking for TITA questions
6. **Syllabus Coverage:** Arithmetic, Algebra, Geometry, Number System, Modern Math, and Mensuration
7. **Skills Tested:** Numerical ability, analytical thinking, and problem-solving

**1.**

If  $x + 2y = 10$  and  $3x - y = 5$ , what is the value of  $x + y$ ?

- (1)  $\frac{45}{7}$
  - (2) 5
  - (3) 6
  - (4) 7
- 

**2.**

A shopkeeper sells an item at a 20% discount on the marked price and still makes a 25% profit on the cost price. If the cost price is Rs. 400, what is the marked price?

- (1) Rs. 500
  - (2) Rs. 600
  - (3) Rs. 625
  - (4) Rs. 650
- 

**3.**

A train travels 240 km in 4 hours. What is its speed in km/h?

- (1) 50
  - (2) 60
  - (3) 70
  - (4) 80
- 

**4.**

The ratio of the ages of A and B is 3:4. Five years from now, their ages will be in the ratio 4:5. What is the present age of A?

- (1) 12 years
  - (2) 15 years
  - (3) 18 years
  - (4) 21 years
- 

**5.**

What is the value of  $\log_2(32) + \log_3(9)$ ?

- (1) 5
  - (2) 6
  - (3) 7
  - (4) 8
- 

**6.**

A sum of money doubles in 4 years at compound interest. In how many years will it become 8 times itself?

- (1) 12 years
  - (2) 14 years
  - (3) 16 years
  - (4) 18 years
- 

**7.**

The area of a circle is  $154 \text{ cm}^2$ . What is its radius? (Use  $\pi = \frac{22}{7}$ )

- (1) 5 cm
  - (2) 6 cm
  - (3) 7 cm
  - (4) 8 cm
- 

**8.**

If  $a^2 + b^2 = 25$  and  $ab = 12$ , what is the value of  $a + b$ ?

- (1) 5
  - (2) 7
  - (3) 9
  - (4) 11
- 

**9.**

A boat travels 60 km downstream in 5 hours and 60 km upstream in 6 hours. What is the speed of the boat in still water?

- (1) 10 km/h
  - (2) 11 km/h
  - (3) 12 km/h
  - (4) 13 km/h
- 

**10.**

The sum of the first 20 terms of an arithmetic progression is 670, and the first term is 5.

What is the common difference?

- (1) 2
  - (2) 3
  - (3) 4
  - (4) 5
- 

**11.**

A man invests Rs. 5000 at 10% per annum compound interest. What is the amount after 2 years?

- (1) Rs. 6000
  - (2) Rs. 6050
  - (3) Rs. 6100
  - (4) Rs. 6055
- 

**12.**

If  $2x + 3y = 12$  and  $x - y = 1$ , what is the value of  $x$ ?

- (1) 3
  - (2) 4
  - (3) 5
  - (4) 6
- 

**13.**

The perimeter of a rectangle is 50 cm, and its length is 5 cm more than its breadth. What is the area of the rectangle?

- (1)  $150 \text{ cm}^2$
  - (2)  $156 \text{ cm}^2$
  - (3)  $144 \text{ cm}^2$
  - (4)  $160 \text{ cm}^2$
- 

**14.**

What is the value of  $\sqrt{169} + \sqrt{64}$ ?

- (1) 20
  - (2) 21
  - (3) 22
  - (4) 23
- 

**15.**

A man can complete a work in 12 days, and a woman can complete it in 18 days. How many days will they take together?

- (1) 6 days
  - (2) 7.2 days
  - (3) 8 days
  - (4) 9 days
- 

**16.**

The cost price of an article is Rs. 200, and it is sold at a profit of 25%. What is the selling price?

- (1) Rs. 240
  - (2) Rs. 250
  - (3) Rs. 260
  - (4) Rs. 270
- 

**17.**

What is the value of  $3^4 \div 3^2$ ?

- (1) 6

- (2) 9
  - (3) 12
  - (4) 15
- 

**18.**

A car travels at 60 km/h for 3 hours and then at 80 km/h for 2 hours. What is the average speed?

- (1) 65 km/h
  - (2) 68 km/h
  - (3) 70 km/h
  - (4) 72 km/h
- 

**19.**

If the selling price of an article is Rs. 240 and the profit is 20%, what is the cost price?

- (1) Rs. 180
  - (2) Rs. 190
  - (3) Rs. 200
  - (4) Rs. 210
- 

**20.**

The HCF of 48 and 72 is:

- (1) 12
  - (2) 24
  - (3) 16
  - (4) 18
- 

**21.**

What is the value of  $5! + 4!$ ?

- (1) 120
- (2) 144
- (3) 168

(4) 192

---

**22.**

A pipe can fill a tank in 6 hours, and another pipe can empty it in 8 hours. If both are opened together, how long will it take to fill the tank?

- (1) 24 hours
  - (2) 28 hours
  - (3) 32 hours
  - (4) 36 hours
- 

**23.**

The volume of a cube is  $343 \text{ cm}^3$ . What is its edge length?

- (1) 6 cm
  - (2) 7 cm
  - (3) 8 cm
  - (4) 9 cm
- 

**24.**

If  $x^2 - 5x + 6 = 0$ , what are the roots of the equation?

- (1) 2, 3
  - (2) 1, 4
  - (3) 1, 5
  - (4) 2, 4
- 

**25.**

A sum of Rs. 1000 is divided among A, B, and C in the ratio 2:3:5. How much does C get?

- (1) Rs. 400
  - (2) Rs. 500
  - (3) Rs. 600
  - (4) Rs. 700
-

**26.**

What is the value of  $\sin^2 30^\circ + \cos^2 60^\circ$ ?

- (1)  $\frac{1}{2}$
  - (2)  $\frac{3}{4}$
  - (3) 1
  - (4)  $\frac{5}{4}$
- 

**27.**

A number when divided by 7 leaves a remainder of 4. What is the remainder when the square of the number is divided by 7?

- (1) 1
  - (2) 2
  - (3) 3
  - (4) 4
- 

**28.**

The sum of two numbers is 15, and their product is 56. What is the larger number?

- (1) 7
  - (2) 8
  - (3) 9
  - (4) 10
- 

**29.**

A train covers a distance of 300 km in 5 hours. What is the time taken to cover 180 km at the same speed?

- (1) 2 hours
  - (2) 2.5 hours
  - (3) 3 hours
  - (4) 3.5 hours
- 

**30.**



What is the value of  $\frac{2}{3} \times \frac{3}{4} \times \frac{4}{5}$ ?

- (1)  $\frac{2}{5}$
  - (2)  $\frac{3}{5}$
  - (3)  $\frac{4}{5}$
  - (4)  $\frac{1}{2}$
- 

**31.**

The average of 5 numbers is 20. If one number is removed, the average becomes 18. What is the removed number?

- (1) 22
  - (2) 24
  - (3) 26
  - (4) 28
- 

**32.**

A shopkeeper marks an item at Rs. 500 and offers a 10% discount. What is the selling price?

- (1) Rs. 440
  - (2) Rs. 450
  - (3) Rs. 460
  - (4) Rs. 470
- 

**33.**

If  $3x = 4y$  and  $y = 2z$ , what is the ratio  $x : y : z$ ?

- (1) 6:4:3
  - (2) 8:6:3
  - (3) 8:6:2
  - (4) 4:3:2
- 

**34.**

What is the value of  $2^{10}$ ?

- (1) 512

(2) 1024

(3) 2048

(4) 4096

---