Pinnacle Learning Destination
Plot No.3 Third Floor Main Road
Raghunathpur, Sector 22 -Noida,
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Twisted Quant for IBPS Exams

Q1. If $x = (16^3 + 17^3 + 18^3 + 19^3)$,
then x divided by 70 leaves a remainder of:
(a) 0
(b) 1
(c) 69
(d) 35
(e) None of these

Q2. A chemical plant has four tanks (A, B, C and D), each containing 1000 litres of a chemical. The chemical is being pumped from one tank to another as follows.
From A to B @ 20 litres/min
From C to A @ 90 litres/min
From A to D @ 10 litres/min
From C to D @ 50 litres/min
From B to C @ 100 litres/min
From D to B @ 110 litres/min
Which tanks gets emptied first, and how long does it take (in minutes) to get empty after pumping starts?
(a) A, 16.66
(b) C, 20
(c) D, 20
(d) D, 25
(e) None of these

Q3. A jogging park has two identical circular tracks touching each other, and a rectangular track enclosing the two circles. The edges of the rectangles are tangential to the circles. Two friends, A and B, start jogging simultaneously from the point where one of the circular tracks touches the smaller side of the rectangular track. A jogs along the rectangular track, while B jogs along the two circular tracks in a figure of eight. Approximately, how much faster than A does B have to run, so that they take the same time to return to their starting point?
(a) 3.88 per cent
(b) 4.22 per cent
(c) 4.44 per cent
(d) 4.76 per cent
(e) None of these

Q4. In a chess competition involving some boys and girls of a school, every student had to play exactly one game with every other student. It was found that in 45 games both the players were girls, and in 190 games both were boys. The number of games in which one player was a boy and the other was a girls is
(a) 200

(b) 216
(c) 235
(d) 256
(e) None of these

Directions (5-6): Answer the questions on the basis of the information given below:
Ram and Shyam run a race between points A and B, 5 km apart Ram starts at 9 am from A at speed of 5 km/h, reaches B, and returns to A at the same speed, Shyam starts at 9.45 am from A at a speed of 10 km/h, reaches B and come back to A at the same speed.

Q5. At what time do Ram and Shyam first meet each other?
(a) 10 am
(b) 10.10 am
(c) 10.20 am
(d) 10.30 am
(e) None of these

Q6. At what time does Shyam over take Ram?
(a) 10.20 am
(b) 10.30 am
(c) 10.40 am
(d) 10.30 am
(e) None of these

Directions (7-8): Answer the questions independently of each other.

Q7. If $R = \frac{30^{65} - 29^{65}}{30^{64} + 29^{64}}$, then
(a) $0 < R \leq 0.1$
(b) $0.1 < R \leq 0.5$
(c) $0.5 < R \leq 1.0$
(d) $R > 1$
(e) None of these

Q8. For which value of k does the following pair of equations yield a unique solution of x such that the solution is positive?

$$x^2 - y^2 = 0 \text{ and } (x - k)^2 + y^2 = 1$$

(a) 2
(b) 0
(c) √2
(d) -2
(e) None of these

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Q9. The digits of a three-digit number of A are written in the reverse order to form another three-digit number B. If B > A and B-A is perfectly divisibly by 7, then which of the following is necessarily true?
(a) 100 < A < 299
(b) 107 < A < 300
(c) 112 < A < 311
(d) 118 < A < 317
(e) None of these

Q10. For a positive integer n, let p_n, denote the product of the digits of n and S_n, denote the sum of digits of n. The number of integers between 10 and 1000 for which $p_n + s_n = n$ is

(a) 81
(b) 16
(c) 18
(d) 9
(e) None of these

Q11. Let S be a set of positive integers such that every element n of S satisfies the conditions:
I. 1000 <= n <= 1200
II. Every digit in n is odd
Then how many element of S are divisibly by 3?
(a) 9
(b) 10
(c) 11
(d) 12
(e) None of these

Q12. Let $x = \sqrt{4 + \sqrt{4 - \sqrt{4 + \sqrt{4 - \cdots \infty}}}}$, then x equals

(a) 3
(b) $\left(\frac{\sqrt{13}-1}{2}\right)$
(c) $\left(\frac{\sqrt{13}+1}{2}\right)$
(d) $\sqrt{13}$
(e) None of these

Q13. A telecom service provider engages male and female operators for answering 1000 calls per day. A male operator can handle 40 calls per day whereas a female operator can handle 50 calls per day. The male and the female operators get a fixed wage of Rs 250 and Rs 300 per day respectively. In addition, a male operator gets Rs 15 per call he answers and female operator gets Rs 10 per call she answers. To minimize the total cost,

how many male operators should the service provider employ assuming he has to employ more than 7 and maximum 12 number of the females?
(a) 15
(b) 14
(c) 12
(d) 10
(e) None of these

Q14. Three Englishmen and three Frenchmen work for the same company. Each of them knows a secret not known to others. They need to exchange these secrets over person-to-person phone calls so that eventually each person known all six secrets. None of the Frenchmen knows English, and only one Englishmen knows French. What is the minimum number of phone calls needed for the above purpose?
(a) 5
(b) 10
(c) 9
(d) 15
(e) None of these

Q15. A rectangular floor is fully covered with square tiles of identical size. The tiles on the edges are white and the tiles in the interior are red. The number of while tiles is the same as the number of red tiles. A possible value of the number of titles along one edge of the floor is
(a) 10
(b) 12
(c) 14
(d) 16
(e) None of these