

## Problem Set - II

1.  $a, b, c$  are positive numbers such that  $a + b + ab = 8$ ,  $b + c + bc = 15$  and  $c + a + ca = 35$ . What is the value of  $a + b + c + abc$ ? **TCS**  
A) 26  
B) 12  
C) 48  
D) 36
2. If the ratio of boys to girls in a class is  $B$  and the ratio of girls to boys is  $G$ , then  $3(B+G)$  is **Cisco**  
A) Equal to 3  
B) Less than 3  
C) More than 3  
D) Less than  $\frac{1}{3}$
3. Cara, a blue whale participated in a weight loss program at the biggest office. At the end of every month, the decrease in weight from original weight was measured and noted as 1, 2, 6, 21, 86, 445, 2676. While Cara made a steadfast effort, the weighing machine showed an erroneous weight once. What was that? **TCS**  
A) 2676  
B) 2  
C) 445  
D) 86
4. Assume that  $f(1) = 0$  and  $f(m+n) = f(m) + f(n) + 4(9mn - 1)$ . For all natural numbers  $m > 0$  &  $n > 0$ . Find the value of  $f(17)$ ? **TCS Digital**  
A) 5436  
B) 4831  
C) 5508  
D) 4832
5. A farmer has a rose garden. Every day he picks either 7, 6, 24 or 23 roses. When he plucks these number of flowers the next day 37, 36, 9 or 18 new flowers bloom respectively. On Monday he counts 189 roses. If he continues on his plan each day, after some days what can be the number of roses left behind? (Consider number of roses remaining every day) **TCS**

**Digital**

- A. 7
- B. 4
- C. 30
- D. 37

6. In the year 2002, Britain was reported to have had 4.3m closed – circuit television (CCTV) cameras – one for every 14 people in the country. This scrutiny is supposed to deter and detect crime. In one criminal case, the police interrogates two suspects. The ratio between the ages of the two suspects is 6:5 and the sum of their ages is 55 years. After how many years will the ratio be 8:7? **TCS**

- A) 11
- B) 6
- C) 10
- D) 5

7. Find the last digit of  $334872^{123!} \times 98477^{253!}$ ? **AMCAT**

- A. 4
- B. 6
- C. 2
- D. 8

8. In a college  $\frac{1}{5}^{th}$  of the girls and  $\frac{1}{8}^{th}$  of the boys took part in a social camp. What of the total number of student in the college took part in the camp?

**I Exceed Technology**

- A. 13/40
- B. 13/80
- C. 2/13
- D. Data inadequate

9.  $\frac{1}{2}$  of a number is 5 more than  $\frac{1}{6}$  of the same number. What is the number?

**Bridge i2i**

- A. 15
- B. 16
- C. 3
- D. 14

10. Two same glasses are respectively  $\frac{1}{4}^{th}$ ,  $\frac{1}{5}^{th}$  full of milk. They are then filled with water and the contents mixed in a tumbler. The ratio of milk and water in the tumbler is? **L&T**
- A. 3: 8
  - B. 9: 31
  - C. 8: 21
  - D. 10: 27
11. Gold is 19 times as heavy as water and copper is 9 times as heavy as water in what ratio you should mix gold and copper in order to get the metal, which is 15 times as heavy as water. **Cisco**
- A. 2:3
  - B. 3:2
  - C. 1:3
  - D. 19:9
12. 24 is divided into two parts, 7 times the first part and 5 times the second part will be equal to 146. The two numbers are? **Cisco**
- A. 13, 11
  - B. 10, 14
  - C. 8, 16
  - D. 9, 15
13. Two number are in the ratio 3: 5. If 9 is subtracted from each, the new numbers are in the ratio 12: 23. The smaller number is **I Exceed Technology**
- A. 27
  - B. 33
  - C. 49
  - D. 55
14. Find a positive number which when increased by 17 is equal to 60 times the reciprocal of the number. **Infosys**
- A. 17
  - B. 15
  - C. 8
  - D. 3

15. Find three numbers in the ratio 2: 3: 5, the sum of whose squares is 608.  
Find the second number? **L&T Constructions**
- A. 18
  - B. 24
  - C. 12
  - D. 6
16. P is a prime number and Q is a positive integer less than P. Find GCD of Q and Q + P. **Infosys**
- A. Q
  - B. P
  - C. Q+P
  - D. 1
17. How many three digit positive integers exist that when divided by 7 leave a remainder of 5? **Infosys**
- A. 128
  - B. 142
  - C. 143
  - D. 129
18. 125 gallons of mixture of milk and water contains 20% water. What amount of water to be added to increase the percentage of water by 25%? **Micro-focus**
- A. 8.33 gallons
  - B. 10 gallons
  - C. 9.1 gallons
  - D. 11.11 gallons
19. A, B and C invested Rs. 8000, Rs. 4000 and Rs. 8000 in a business respectively. A left after 6 months. After 8 months there was gain of Rs. 4005. Find the share of B? **Microfocus**
- A. Rs.1335
  - B. Rs.445
  - C. Rs.890
  - D. Rs.1780
20. A, B and C enter into a partnership in the ratio  $\frac{7}{2} : \frac{4}{3} : \frac{6}{5}$ . After 4 months, A increases his share 50%. If the total profit at the end of one year be Rs.

21,600, then B's share in the profit is **L&T Constructions**

A. Rs.3200

B. Rs.6000

C. Rs.4000

D. Rs.5400

**Answers:**

1. D, 2. C, 3. D, 4. D, 5. B, 6. C, 7. B, 8. D, 9. A, 10. B, 11. B, 12. A, 13. B, 14. D,  
15. C, 16. D, 17. D, 18. A, 19. C, 20. C