Section A (1 mark each × 3 = 3 marks)

1. Write the largest 7-digit number using the digits **4, 7, 0, 9, 6, 2, 1** (without repetition).

2. Write the next three multiples of **125** after 1000.

3. Evaluate: **7 × (1000 – 1)**.

Section B (2 marks each × 5 = 10 marks)

6. Write the difference between the greatest 8-digit number and the smallest 7-digit number.

7. A bus has a seating capacity of 52. How many passengers can 275 buses carry?

8. Express **980** as the product of prime factors.

9. Find the HCF of 84 and 126 using the prime factorization method.

10. Find the LCM of 36 and 48.

Section C (3 marks each × 5 = 15 marks)

11. The product of two numbers is 43,200. If one number is 180, find the other.

12. Write all prime factors of 216. Using them, find whether 216 is divisible by 9.

13. Find the smallest number which when divided by 15, 18, and 27 leaves a remainder 3 in each case.

14. Verify the property:
    (23 + 37) + 45 = 23 + (37 + 45).

15. Find the HCF and LCM of 30, 45, and 60.

Section D (5 marks each × 4 = 20 marks)

16. A factory produces **24,650 pens in a day**. How many pens will it produce in the months of:

● (a) February (non-leap year)

● (b) March

17. The traffic lights at three crossings change after 30 sec, 45 sec, and 75 sec. If they change together at 9:00 a.m., at what time will they next change together?

18. The HCF of two numbers is 18 and their LCM is 1296. If one number is 144, find the other.

19. The population of a city is 32,47,586. If 4,68,729 children are below 6 years of age, and 2,35,410 people are above 60 years, find the population of people aged 6–60 years.

Section A

1. 399 = CCCXCIX

2. Greatest = 9764210

3. 999,999

4. 1125, 1250, 1375

5. 7000 – 7 = **6993**

Section B

6. Greatest 8-digit = 99,999,999; Smallest 7-digit = 10,00,000
   Difference = 98,999,999

7. 52 × 275 = **14,300 passengers**

8. 980 = 2 × 2 × 5 × 7 × 7

9. 84 = 2 × 2 × 3 × 7
   126 = 2 × 3 × 3 × 7
   HCF = 2 × 3 × 7 = **42**

10. 36 = $2^2 \times 3^2$
    48 = $2^4 \times 3$
    LCM = $2^4 \times 3^2$ = **144**

Section C

11. Other number = 43200 ÷ 180 = **240**

12. 216 = $2^3 \times 3^3$
    Since 3^2 divides it, 216 is divisible by 9 ✅

13. LCM of 15, 18, 27 = 270
    Smallest number = 270 + 3 = **273**

14. (23 + 37) + 45 = 60 + 45 = 105
    23 + (37 + 45) = 23 + 82 = 105
    ✅ Verified

15. 30 = 2 × 3 × 5
    45 = 3² × 5
    60 = 2² × 3 × 5
    HCF = 3 × 5 = 15
    LCM = 2² × 3² × 5 = 180

Section D

16.

(a) February (28 days): 24,650 × 28 = **6,90,200 pens**
(b) March (31 days): 24,650 × 31 = **7,64,150 pens**

17. LCM of 30, 45, 75 = 450 sec = 7 min 30 sec
    Next change together = **9:07:30 a.m.**

18. If HCF × LCM = Product of numbers
    18 × 1296 = 144 × ?
    23,328 = 144 × ?
    ? = 162
    → Other number = **162**

19. Population aged 6–60 = 32,47,586 – (4,68,729 + 2,35,410)
    = 32,47,586 – 7,04,139 = **25,43,447**