REAL NUMBERS CM23M100101

Multiple Choice Questions: **1 mark each**

1. The largest number which divides 71 and 126, leaving remainders 6 and 9 respectively is:
   (a) 1750 (b) 13 (c) 65 (d) 875
2. The least number that is divisible by all the numbers from 1 to 10 (both inclusive) is:
   (a) 10 (b) 100 (c) 504 (d) 2520
3. If a, b are coprime, then a^2, b^2 are:
   (a) coprime (b) not coprime (c) odd numbers (d) even numbers
4. If $x = 2^3 \times 3 \times 5^2, y = 2^2 \times 3^3$, then HCF(x, y) is:
   (a) 12 (b) 108 (c) 6 (d) 36
5. If least prime factor of a is 3 and least prime factor of b is 7, the least prime factor of (a + b) is:
   (a) 2 (b) 3 (c) 5 (d) 11

Very Short Answer Type Questions: **2 marks each**

6. Show that $3\sqrt{2}$ is irrational.
7. Factorise 34650 using factor tree.

Short Answer Type Questions: **3 marks each**

8. Can the number 6^n, n being a natural number, end with the digit 5? Give reasons.
9. Find the LCM and HCF of 120 and 144 by fundamental theorem of arithmetic.
10. Can two numbers have 16 as their HCF and 380 as their LCM? Give reason.

Long Answer Type Questions: **4 marks each**

11. Let K be the greatest number that will divide 1305, 4665 and 6905, leaving the same remainder in each case. Find the sum of the digits in K.
12. A mason has to fit a bathroom with square tiles of the largest possible size. The size of the bathroom is 10 ft by 8 ft. what would be the size in inches of the tiles required that has to be cut and how many such tiles are required.
13. 15 pastries and 12 biscuits packets have been donated for a school fete. These are to be packed in several smaller identical boxes with the same number of pastries and biscuits packets in each. How many biscuit packets and how many pastries will each box contain?