Real Numbers

THE FUNDAMENTAL THEOREM OF ARITHMETIC

EXERCISE

 Find the HCF and LCM of following using Fundamental Theorem of Arithmetic method.

(i) 426 and 576 (ii) 625, 1125 and 2125

- 2. An army contingent of 616 members is to march behind and army band of 32 members in a parade. The two groups are to march in the same number of columns. What is the maximum number of columns in which they can march?
- **3.** There is a circular path around a sports field. Sonia takes 18 minutes to drive one round of the field, while Ravi takes 12 minutes for the same. Suppose they both start at the same point and at the same time, and go in the same direction. After how many minutes will they meet again at the starting point ?
- **4.** Find the L.C.M. and H.C.F. of the following pairs of integers by applying the Fundamental Oprime factorisation method.

5. Three pieces of timber 42 m, 49 m and 63 m long have to be divided into planks of the same length. What is the greatest possible length of each plank ?

⁽i) 26 and 91 (ii) 1296 and 2520

CLASS 10

- 6. Find the greatest possible length which can be used to measure exactly the length 7 m,3 m 85 cm and 12 m 95 cm.
- 7 Find the maximum number of students among whom 1001 pens and 910 pencils can be distributed in such a way that each student gets the same number of pens and the same number of pencils.
- 8 Three measuring rods are 64 cm, 80 cm and
 96 cm in length. Find the least length of cloth that can be measured an exact number of times, using any of the rods.
- 9 The traffic lights at three different road crossings change after every 48 seconds,
 72 seconds and 108 seconds respectively. If they all change simultaneously at 8
 hours, then at what time will they again change simultaneously ?
- An electronic device makes a beep after every 60 seconds. Another device makes a beep after every 62 seconds. They beeped together at
 10 am. At what time will they beep together at the earliest ?

ANSWER

- **1.** (i) 6,40896 (ii) 125, 95625
- **2.** 8 columns
- **3.** 36 minutes
- 4. (i) **L.C.M.** (26, 91) = 182, ., **H.C.F** (26, 91) = 13

(ii) **L.C.M.** (1296, 2520) = 45,360 ., H.C.F. (1296, 2520) = **72.**

- **5.** 7 m
- **6.** 35 cm
- **7.** 91
- **8.** 9.6 m
- **9.** 8 : 7 : 12 hrs
- **10.** 10 : 31 hrs