

ALPHA CLASSES

Class 10 Mathematics

1. Real Numbers**TEST**

Time	Marks	Reference Code
40 minutes	--	C10-M-01-T06-TEST-01

ALPHA CLASSES DEOBAND | Session 2026–27 | CBSE Board Pattern**Name:** _____ **Roll No.:** _____ **Date:** _____**Time:** 40 minutes | **Maximum Marks:** 26**General Instructions:** - All questions are compulsory. - Show all working steps clearly. - Write the prime factorisation before stating the final answer for HCF/LCM questions.**SECTION A – VERY SHORT ANSWER (1 MARK EACH)****Q1.** What is the prime factorisation of 156? [1 mark]**Q2.** If the prime factorisation of a number n is $2^4 \times 3 \times 7$, find the value of n . [1 mark]**Q3.** Two numbers are co-prime and their LCM is 143. If one number is 11, what is the other? [1 mark]**Q4.** State the Fundamental Theorem of Arithmetic. [1 mark]**SECTION B – SHORT ANSWER TYPE (2 MARKS EACH)****Q5.** Find the HCF and LCM of 36 and 54 using prime factorisation. [2 marks]**Q6.** The product of two numbers is 3276. If their HCF is 6, find their LCM. [2 marks]**Q7.** Find the LCM of 8, 12, and 15 using prime factorisation. [2 marks]**Q8.** Explain why $7 \times 11 \times 13 + 13$ is a composite number. [2 marks]**SECTION C – SHORT ANSWER TYPE II (3 MARKS EACH)****Q9.** Find the HCF and LCM of 480 and 720 using prime factorisation. Verify the relationship: $\text{HCF} \times \text{LCM} = \text{Product of the two numbers}$. [3 marks]**Q10.** There are 104 students in Class 10-A and 96 students in Class 10-B. The principal wants to arrange them in rows of equal size such that each row has students from only one class. Find the maximum number of students in each row. Also find the total number of rows needed. [3 marks]**Q11.** Find the smallest number which when divided by 35, 56, and 91 leaves a remainder of 7 in each case. [3 marks]

SECTION D – LONG ANSWER / HOTS (4 MARKS)

Q12. A shopkeeper has two bundles of rope. One bundle is 10 metres long and the other is 15 metres long. He wants to cut both bundles into pieces of equal length without any rope being left over.

1. What is the greatest possible length of each piece? [1 mark]
2. How many total pieces will he get? [1 mark]
3. If instead the ropes were 10 m and 14 m, would the greatest piece length change? Find the new answer and explain why it differs from part (a). [2 marks]

All the best!