



STD: 10TH

➤ **REAL NUMBER**

DATE: -

FULL MARKS: - 50

#Attempt all questions. TIME: - 2Hrs

MCQS.

1. The HCF and LCM of two numbers is 9 and 459 respectively. If one of the number is 27, then the other number is

- a. 153
- b. 150
- c. 459
- d. 135

2. What is the number x ? The LCM of x and 18 is 36. The HCF of x and 18 is 2.

- a. 1
- b. 3
- c. 2
- d. 4

3. The HCF and LCM of two numbers are 9 and 90 respectively. If one number is 18, then the other number is

- a. 54
- b. 36
- c. 45
- d. 63

4. Sound of crackers is heard during festival days, but the sound of supernova explosion in space is not heard on the surface of earth because of

- a. lesser gravity
- b. the influence of the other planets
- c. large distance
- d. absence of medium

5. If the LCM of two numbers is 45 times their HCF and the sum of LCM and HCF is 1150, then HCF =

- a. 50
- b. 45
- c. 1150
- d. 25

6. Find the HCF and LCM of 11008 and 7344 using fundamental theorem of arithmetic. **(1)**

7. Show that any positive integer is of the form $3q$ or, $3q + 1$ or, $3q + 2$ for some integer q . **(1)**

8. Express the given number as the product of its prime factors: 5005. **(1)**

9. Find HCF and LCM of 625, 1125 and 2125 using fundamental theorem of arithmetic. **(1)**

10. If - 1 is a zero of the polynomial $f(x) = x^2 - 7x - 8$, then calculate the other zero. **(1)**

11. Express as a fraction in simplest form. **(2)**

12. Show that the cube of a positive integer is of the form $6q + r$, where q is an integer and $r = 0, 1, 2, 3, 4, 5$. **(2)**

13. Without actual division, show that rational number is a terminating decimal. Express decimal form. **(2)**

14. Prove that is an irrational number. **(3)**

15. Use Euclid division lemma to show that the square of any positive integer cannot be of the form $5m + 2$ or $5m + 3$ for some integer m . **(3)**

16. Prove that is an irrational number. **(3)**

17. Amita, Sneha and Raghav start preparing cards for greeting each person of an old age home on new year. In order to complete one card, they take 10, 16 and 20 minutes respectively. If all of them started together, after what time will they start preparing a new card together? Why do you think there is a need to show elders that the young generation cares for them and remembers the contribution made by them in the prime of their life? **(3)**

18. Show that square of any positive integer cannot be of the form $5q + 2$ or $5q + 3$ for some integer m . **(4)**

19. Can the number $6n$, n being a natural number, end with the digit 5? Give reasons. **(4)**

20. Three sets of physics, chemistry and mathematics books have to be stacked in such a way that all the books are stored topic wise and the number of books in each stack is the same. The number of physics books is 192, the number of chemistry books is 240 and the number of mathematics books is 168. Determine the number of stacks of physics, chemistry and mathematics books. **(4)**