Time: 45 Minutes Maximum Marks: 20M

Mathematics – Class Xth

Real Numbers

Q1- The decimal expansion of the rational number $\frac{43}{2^4 \times 5^3}$ will terminate after how many places of decimal? (1M)

Q2- Is 7 x 8 x 9 + 8 a composite number or not? (1M)

Q3- What type of number is the following?

0.675775777577775…… (1M)

Q4- (1M)

The least number that is divisible by all the numbers from 1 to 10 (both inclusive) is ..... .

Q5- (1M)

The LCM of smallest two digit composite number and smallest composite number is

(a) 12 **(b)** 4

(c) 20 **(d)** 44

Q6- (1M)

The product of a non-zero rational and an irrational number is :

(a) always irrational. **(b)** always rational. **(c)** rational or irrational. **(d)** one.

Q7- HCF of two numbers is 145 and their LCM is 2175. If one number is 75, find the other.

(2M)

Q8- What kind of decimal expansion the following have:

a) $\frac{77}{560}$

b) $\frac{13}{343}$ (2M)

Q9- A rectangular courtyard is 18 m 72cm long and 13 m 20 cm broad. It is to be paved with square tiles of the same size. Find the least possible number of such tiles. (3M)

Q10- Three sets of English, Hindi and Mathematics books have to be stacked in such a way that all the books are stored topic wise and the height of each stack is the same. The number of English books is 96, the number of Hindi books is 240 and the number of Mathematics books is 336. Find the maximum number of books that can be arrange in each stack? (3M)

Q11- Prove that the following are irrational:

1. √2
2. 5 - √3 (4M)