**Self-Assignment – 1**

**Topic: Real numbers**

**Class: 10th Max. Marks: 25**

**Answer the following. Each question carry ½ mark. 10 × ½ = 5M**

1. If ‘a’ and ‘b’ are coprime then find the H.C.F of ‘a’ and ‘b’?
2. Write the exponential form of log3 N = 2?
3. Rani says, “Logarithm of any number to the same base is 1. So log1 1 = 1”. Do you agree with her? Justify.
4. After how many digits, the decimal expansion of will terminate?
5. Find the L.C.M of a2 × b3 × c and a × b4 × c²?
6. Define Euclid’s division lemma?
7. Can you find the H.C.F of 3.4 and 0.34? Justify your answer?
8. “If ‘A’ and ‘B’ are two irrational numbers then A + B need not be irrational”. Give an example to A and B to make the statement true?
9. Expand log ?
10. Write the decimal form of without actual division?

**Answer the following. Each question carries 1 mark 4 × 1 = 4M**

1. How will show that (19 × 13 × 2) + (19 × 13 × 5) is a composite number?
2. Express log 48 in terms of log 2 and log 3?
3. Prove the fundamental theorem of Arithmetic by taking an example?
4. Find the value of log 4 + log 5 – log 2?

**Answer the following. Each question carries 2 mark. 4 × 2 = 8M**

1. Show that 3n × 4m cannot end with the digit 0 or 5 for any natural number ‘n’ and ‘m’?
2. There are two cans completely filled with milk. Capacity of the two cans 100 litres and 60 litres. What should be the maximum capacity of a measuring jar which can measure the milk completely without any milk remains in any of the cans?
3. Prove that 4 + is an irrational number?
4. If 3x-5 = 27-x then find the value of ‘x’?

**Answer the following. Each question carries 4 marks 2 × 4 = 8M**

1. Use Euclid’s division lemma to show that any positive odd integer is of the form 6q + 1 or 6q + 3 or 6q + 5, where ‘q’ is some integer?

Or

Prove that is an irrational number?

1. If (3.4)x = (0.34)y, then find the value of ?

Or

Check whether 3 log 2 + 2 log 5 = 2 + log 2?