ERRORS ERASER

Test Name: Chapter Test

Class: ____X____ Subject: _____Math_____

Chapter(s): Real Numbers

Time: __45__ Minutes Maximum Marks: __30__

General Instructions:

All questions are compulsory.

The question paper consists of __4__ Sections (A, B, C, D).

Use of calculator is not permitted.

Draw neat and labelled diagrams wherever required.

Internal choices are provided as per instructions.

The duration of the question paper is 45 minutes.

Marks allotted to each question are indicated against it.

Today's hard work makes your Tomorrow better

Section - A

1 × __6__ = __6__ Marks

1. What is irrational number ? Write one example of an irrational number.
2. Write the prime factorisation of 71.
3. Check whether 7/40 has a terminating decimal expansion.
4. Find whether each of the following is an irrational number or a rational number.
   (I) $(\sqrt{5} - \sqrt{3})^2$ (II) $(5+\sqrt{3})(5-\sqrt{3})$
5. The smallest irrational number by which $\sqrt{20}$ should be multiplied so as to get a rational number,is: (A) $\sqrt{20}$ (B) $\sqrt{2}$ (C) $\sqrt{5}$ (D) 5
6. If $1080 = 2^x * 3^y * 5$, then (x - y) is equal to :

Section - B

2 × __4__ = __8__ Marks

7. Find the HCF of 306 and 657 using Euclid's Division Algorithm.
8. Express 0.375 in the form p/q, where p and q are co-prime.
9. If $a = 2^4 * 3^3$, $b = 2^3 * 3^2 * 5$, $c = 3^n * 5^2$ and LCM (a, b, c) = $(5^2 * 3^4 * 2^4)$, then n is :
10. Find the least number which when divide by 12,16 and 24 leaves a remainder of 7 at each case

Section - C

3 × __4__ = __12__ Marks

11. Prove that $(\sqrt{2} + \sqrt{3})$ is an irrational number, given that $\sqrt{6}$ is an irrational number.

12. If n is a natural number, then which of the following numbers end with 0
    (a) $(3*2)^n$ (b) $(2*5)^n$ (c) $(6*2)^n$ (d) $(5*3)^n$
13. Find the greatest number which divides 85 and 72 leaving remainders 1 and 2 respectively
14. In a school, there are two sections of class X. There are 40 students in the first section and 48 students in the second section. Determine the minimum number of books required for their class library so that they can be distributed equally among students of both sections.

Section - D (Case Based)

__4__ Marks

15. Case: A number when divided by 13 leaves a remainder 5 and when divided by 17 leaves a remainder 7.
    Questions:
    (i) What numbers must be subtracted from the given number to make it divisible by 13 and 17 respectively? (1 mark)
    (ii) Find the HCF of the adjusted numbers. (2 marks)
    (iii) Write the smallest number satisfying the given conditions. (1 mark)

    OR

16. Case: Ravi is studying decimal expansions in the Real Numbers chapter. He is given the numbers 13/40 and 7/125.
    Questions:
    (i) Write the prime factorisation of the denominators of both fractions. (2 marks)
    (ii) State whether 13/40 has a terminating decimal expansion. Give reason. (1 mark)
    (iii) State whether 7/125 has a terminating decimal expansion. Give reason. (1 mark)

Question Type	No. of Qs	Marks	Time (min)
1 Mark	6	6	9 min
2 Marks	4	8	12 min
3 Marks	4	12	20 min
4 Marks	1	4	4 min
Revision / Buffer Time			0–3 min
TOTAL TIME			45 min