## ASSIGNMENT CLASS X UNIT 1 REAL NUMBERS

## MULTIPLE CHOICE QUESTIONS

1)	If p and q are two distinct prime numbers, then their HCF is			
	a) 2	b) 0	c) 3	d) either 1 or 2
2)	The LCM of smallest prime number and the smallest odd composite number is			
	a) 10	b) 6	c) 9	d) 18
3)	If two positive integers p and q can be expressed as $p = ab^2and q = a^3b$ , where a and b are			
	prime numbers then LCM (p,q) is			
	a) ab	b) a <sup>2</sup> b <sup>2</sup>	c) a <sup>3</sup> b <sup>2</sup>	d) a <sup>3</sup> b <sup>3</sup>
4)	If HCF (a, 8) = 4 and LCM (a, 8) = 24, then a is			
	a) 8	b) 10	c) 12	d) 14
5)	The largest number which divides 70 and 125, leaving remainders 5 and 8 resp., is			
	a) 13	b) 65	c) 875	d) 1750
6)	If 3 is the least prime factor of m and 5 is the least prime factor of n, then the least prime			
	factor of (m + n) is I			
	a) 11	b) 2	c) 3	d) 5
7)	) If $p_1$ and $p_2$ are odd prime numbers such that $p_1 > p_2$ , then $p_1{}^2 - p_2{}^2$ is			
	a) an even number			c) an odd number
	b) an odd prir	ne number		d) a prime number
8)	If the HCF of 85 and 153 is expressible in the form 85n – 153, then the value of n is			
	a) 3	b) 2	c) 4	d) 1
9)	If n is any natural number, then which of the following numbers ends with 0:			
	a) $(3 x 2)^n$	b) (5 <i>x</i> 2) <sup><i>n</i></sup>	c) (6 <i>x</i> 2) <sup><i>n</i></sup>	d) $(4 x 2)^n$
10)	.0) HCF x LCM for the numbers 50 and 20 is			
	a) 10	b) 100	c) 1000	d) 50
11) Three bells ring at intervals of 4, 7 and 14 minutes. All the three bells rang at 6 am. When will				
	they ring together again?			
	a) 6:07am	b) 6 : 14am	c) 6 : 28am	d) 6 : 25am

ASSERTION REASONING QUESTIONS:

Each of the following questions contain statement 1(Assertion) and statement 2(Reason) has following four choices a, b, c and d, only one of which is the correct answer. Mark the correct answer.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true and R is not the correct explanation of A.
- c) A is true but R is false.
- d) A is false but R is true.
- Assertion: If LCM (60, 72) = 360, then HCF (60, 72) = 12 Reason: HCF (a, b) x LCM (a, b) = a + b
- 2) Assertion:  $\sqrt{3}$  is an irrational number. Reason: Square root of all positive integers are irrational number.
- 3) Assertion: The product of  $(5 \sqrt{3})$  and  $(2 + \sqrt{3})$  is an irrational number. Reason: The product of two irrational numbers is always an irrational number.
- 4) Assertion: If the Product of two numbers is 5780 and their HCF is 17, then their LCM is 340.

Reason: HCF is always a factor of LCM.

- 1) Show that  $12^n$  cannot end with digit 0 or 5 for any natural number n.
- 2) Find the largest positive integer that will divide 398, 436 and 542 leaving remainders 7, 11 and 15 respectively.
- 3) On a morning walk, three persons step off together and their steps measures 40 cm, 42 cm and 45 cm resp. What is the minimum distance each should walk so that each can cover the same distance and complete steps?
- 4) In a teacher's workshop, the number of teachers teaching French, Hindi and English are 48, 80 and 144 resp. Find the minimum number of rooms required if in each room the same number of teachers are selected and all of them are of the same subject.
- 5) Prove that  $\sqrt{2} + \sqrt{3}$  is an irrational number.

6) Can two natural numbers have 15 as their HCF and 175 as their LCM? Give reasons.

## CASE STUDY 1

Mira is very health conscious and avoids fast food, cakes, ice creams etc. On her birthday she decided to serve fruits to her friend guests. She had 60 bananas and 36 apples which are to be distributed equally among all.

On the above situation, answer the following questions:

i)How many maximum guests Mira can invite?

- ii) How many apples will each guests get?
- iii) How many bananas will each guest get?
- iv) If Mira also decides to distribute 42 mangoes, how many maximum guests she can invite?
- v) How many total fruits will each guest get?

## CASE STUDY 2

Jai, Jameel and Jony decided to play a game of climbing 100 stairs. Jai climbs 5 stairs and gets down 2 stairs in one turn, Jamed goes up by 7 stairs and comes down by 2 stairs in a turn, Jony goes 10 stairs up and 3 stairs down each time. Each one of them stops when less number of stairs are left than the number of stairs for his forward movement.

i)Who climbs the maximum number of stairs?

ii) How many times can they meet in between on the same stair?

iii) Who takes the least number of attempts to reach near the 100<sup>th</sup> stair?

iv) Who meets for first time on a stair?

v) Who meet for the second time on a stair?