INDIAN SCHOOL AL WADI AL KABIR
Department: Mathematics

Class X **Worksheet – Real Numbers**

(MCQ & Case study) **16 – 04 -2023**

Questions of 1 mark each

Q.1.	The HCF of two numbers 'a' and 'b' is 5 and their LCM is 200. Then the product of 'a' and 'b' is						
	A	205	B	1000	C	200	D	195

Q.2.	If a and b are two consecutive natural numbers then the HCF (a, b) is						
	A	1	B	2	C	ab	D	a + b

Q.3.	If p is a prime number then LCM of p, p^2 and p^3 is						
	A	p	B	p^3	C	p^2	D	p^6

Q.4.	If HCF (26, 169) = 13, then LCM (26, 169) is						
	A	26	B	52	C	338	D	13

Q.5.	If HCF of 144 and 180 is expressed in the form 13m – 3, then the value of m is						
	A	2	B	3	C	4	D	5

Q.6.	If two positive integers p and q can be expressed as p = ab² and q = a³b; a, b being prime numbers, then LCM (p, q) is						
	A	ab	B	a^2b^2	C	a^3b^2	D	a^3b^3

Q.7.	What is the largest number that divides 245 and 1029, leaving remainder 5 in each case?						
	A	16	B	15	C	9	D	5

Q.8.	The LCM of two co-prime numbers is always the						
	A	Sum of the numbers	B	Difference of the numbers	C	Product of the numbers	D	1

Q.9.	For the given factor tree							
	A	a = 5, b = 13	B	a = 13, b = 5	C	a = 65, b = 13	D	a = 5, b = 15
Q.10.	The LCM of $2^3 \times 3^2$ and $2^2 \times 3^3$ is							
	A	3^3	B	2^3	C	$2^3 \times 3^3$	D	$2^2 \times 3^2$

ASSERTION AND REASONING

DIRECTION: In question numbers 11 and 12, a statement of **Assertion (A)** is followed by a statement of **Reason (R).** Choose the correct option

(a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A)

(b) Both Assertion (A) and Reason (R) are true and Reason (R) is not the correct explanation of Assertion (A)

(c) Assertion (A) is true but reason (R) is false.

(d) Assertion (A) is false but reason (R) is true.

Q.11.	**Assertion:** The HCF of two numbers is 16 and their product is 3072. Then their LCM = 162. **Reason:** If a, b are two positive integers, then HCF (a, b) x LCM (a, b) = a x b
Q.12.	**Assertion:** √7 is an irrational number. **Reason:** A square root of a prime number is always an irrational number.

Q.13.	**Case Study Based – 1**
	The department of Computer Science and Technology is conducting an International Seminar. In the seminar, the number of participants in Mathematics, Science and Computer Science are 192, 240 and 168 respectively. The coordinator has made the arrangement such that in each room, the same number of participants are to be seated and all of them being in the same subject.

  (i) Find the prime factorization of 168.

  (ii) Find the maximum number of participants in each room, if the same number of participants are to be seated in each room and all of them being in the same subject.

  (iii) Find the minimum number of rooms required for the participants.

Q.14.	**Case Study Based – 2**

Indian Army is the third biggest military contingent in the World next to USA and China. However, there are many firsts that make Indian army stand out in the world, making us all Indians very proud.

On a Republic day, the Parade of the following two groups were planned:

  (a) First group of Army contingent of 624 members behind an army band of 32 members.

  (b) Second group of CRPF troops with 468 soldiers behind the 228 members of bikers.

 These two groups are to march in the same number of columns. This sequence of soldiers is followed by different states which are showing the culture of the respective states.

  (i)   What is the maximum number of columns in which the army troop can march?

  (ii)   What is the maximum number of columns in which the CRPF troop can march?

  (iii)   What is the maximum number of columns in which total army troop and CRPF troop together can march past?

ANSWERS

Q.1	B	Q.2	A	Q.3	B	Q.4	C	Q.5	B
Q.6	C	Q.7	A	Q.8	C	Q.9	B	Q.10	C
Q.11	d	Q.12	a	Q.13	(i) 2^3 x 3 x 7 (ii) 24 (iii) 25			Q.14	(i) 16 (ii) 12 (iii) 4