Seven Star International School Bani

Monday test | Class - 6th | Subject- Maths | M.M - 30

Section A. (10×1=10)

Q1 In which of the following pairs, the first number is divisible by the second number? Use prime factorisation.

(a) 75 and 30
(b) 90 and 60
(c) 125 and 75
(d) 75 and 15

Q2. Three prime numbers less than 20, whose product is 231.

(a) 3, 7 and 11
(b) 3, 5 and 7
(c) 7, 11 and 13
(d) None of these

Q3. The number of common prime factors of 75, 60, 105 is

(a) 2
(b) 3
(c) 4
(d) 5

Q4. The number of distinct prime factors of the largest 4-digit number is

(a) 2
(b) 3
(c) 5
(d) 11

Q5. The number of distinct prime factors of the smallest 5-digit number is

(a) 2
(b) 4
(c) 6
(d) 8

Assertion–Reason Type Questions

Q6. Assertion (A): The numbers 9 and 25 are coprime.
Reason (R): A number is said to be prime if it has only two factors — 1 and the number itself.
(a) Both (A) and (R) are true and (R) is the correct explanation of (A).
(b) Both (A) and (R) are true but (R) is not the correct explanation of (A).
(c) (A) is true but (R) is false.
(d) (A) is false but (R) is true.

Q7. Assertion (A): The common factors of two numbers can never be greater than the smaller number.
Reason (R): Factors are numbers that divide another number completely.
(a) Both (A) and (R) are true and (R) is the correct explanation of (A).
(b) Both (A) and (R) are true but (R) is not the correct explanation of (A).
(c) (A) is true but (R) is false.
(d) (A) is false but (R) is true.

True / False

Q8. The common multiples of 3 and 4 start from 12.

Q9. The common factors of 6 and 9 are 1 and 3.

Fill in the blanks

Q10. If two numbers have no common factors other than 1, they are said to be .....

(5×2=10)

Section B. (5×2=10)

Q11 The numbers 13 and 31 are prime numbers. Both these numbers have same digits 1 and 3. Find such pairs of prime numbers up to 100.

Q12. Find seven consecutive composite numbers between 1 and 100.

Q13. Write the greatest and the smallest prime number between 10 and 20.

Q14. Write the first two common multiples of 5 and 15.

Q15 .Find the prime factorisation of 1600.

Section C (1×4=4)

Q16 Case Based Questions

A photographer is hired to take group photographs of students in each class in a school. He arranges the students along with teachers in rows for the photograph. His arrangement has

at most 50 people.

an equal number of people in each row.

A row consists of a minimum of 3 people and a maximum of 8 people.

(i) There are 35 people (students and teachers) in a class for a group photograph. What are the possible arrangements for them?

(ii) The photographer arranged some of the students in 6 rows. What can be the maximum number of students in the photograph?(a) 18 (b) 36 (c) 48 (d) 60

(iii) How did the students of Class 7 which are 30 in number want to take a photograph along with 2 teachers. Which of the following is the possible arrangement for them?

(a) 2 rows with 16 students in each.

(b) 4 rows with 8 students/teachers in each.

(c) 5 rows with 6 students in each and 1 row for teachers.

Section D. (2×3=6)

Q17. Find the common prime factors of 120 and 84 and determine if they have any common factors other than 1.

Q18 Find the smallest number that is a multiple of all the numbers from 1 to 10 except for 7.