Mock Test for class 10th

Chapter: Real Number

Maximum marks: 25 ***Time limit: 45 mints.***

1. If $X = 28 + (1 \times 2 \times 3 \times 4 \times \ldots\ldots\ldots \times 16 \times 28)$ and $Y = 17 + (1 \times 2 \times 3 \times \ldots\ldots\ldots \times 17)$, then which of the following is/are true?
   1. X is a composite number
   2. Y is a prime number
   3. $X - Y$ is a prime number
   4. $X + Y$ is a composite number.

   a) Both (1) and (4)
   b) Both (2) and (3)
   c) Both (2) and (4)
   d) Both (1) and (2)
2. Two positive numbers have their HCF as 12 and their product as 6336. The number of pairs possible for the numbers, is
   a) 2
   b) 3
   c) 4
   d) 5
3. The value of $(12)^{3^x} + (18)^{3^x}$, $x \in N$, end with the digit.
   a) 2
   b) 8
   c) 0
   d) Cannot be determined
4. If n is an even natural number, then the largest natural number by which $n(n+1)(n+2)$ is divisible, is
   a) 6
   b) 8
   c) 12
   d) 24
5. If $p_1 \; and \; p_2$ are two odd prime numbers such that $p_1 > p_2$, then ${p_1}^2 - {p_2}^2$ is

a) An even number
b) An odd number
c) An odd prime number
d) A prime number

6. The rational form of 0.2545454…. is in the form of $\frac{p}{q}$ then $(p+q)$ is
   a) 14
   b) 55
   c) 69
   d) 79
7. If $a = 2^3 \times 3,\ b = 2 \times 3 \times 5,\ c = 3^n \times 5$ and LCM $(a, b, c) = 2^3 \times 3^2 \times 5$, then $n =$
   a) 1
   b) 2
   c) 3
   d) 4
8. Three sets of Mathematics, Science and Biology books have to be stacked in such a way that all the books are stored subject wise and the height of each stack is the same. The number of Mathematics books are 240, the number of Science books is 960 and the number of Biology books is 1024. The number of stack of Mathematics, Science and Biology books, assuming that the books are of the same thickness are respectively.
   a) 15, 60, 64
   b) 60, 15, 64
   c) 64, 15, 60
   d) None of these
9. If $a + bp^{1/3} + cp^{2/3} = 0$, where a, b, c, p are rational numbers and p is not perfect cube, then
   a) $a \neq b = c$
   b) $a = b \neq c$
   c) $a \neq b \neq c$
   d) $a = b = c$
10. The rational number of the form $\frac{p}{q}, q \neq 0\ , p\ and\ q$ are positive integers, which represents 0.134343434……. is
    a) $\frac{134}{999}$

b) $\frac{134}{990}$

c) $\frac{133}{999}$

d) $\frac{133}{990}$

11. If x and y are odd positive integers, then $x^2 + y^2$ is

a) Even and divisible by 4

b) Even and not divisible by 4

c) Odd and divisible by 4

d) Odd and not divisible by 4

12. The least number which is a perfect square and is divisible by each of 16,20 and 24 is

a) 240

b) 1600

c) 2400

d) 3600

13. Which of the following rational number have non-terminating repeating decimal expansion?

a) $\frac{31}{3125}$

b) $\frac{71}{512}$

c) $\frac{23}{200}$

d) None of these

14. When 2^{256} is divided by 17 the remainder would be

a) 1

b) 16

c) 14

d) None of these

15. The least number which when divided by 15, leaves a remainder of 5, when divided by 25, leaves a remainder of 15 and divided by 35 leaves a remainder of 25, is

a) 515

b) 525

c) 1040

d) 1050

16. Without actual performing the long division, the terminating decimal expansion of $\frac{51}{1500}$ is in the form of $\frac{17}{2^n \times 5^m}$, then $(m+n)$ is equal to
    a) 2
    b) 3
    c) 5
    d) 8
17. The sum of three non-zero prime numbers is 100. One of them exceeds the other by 36. Then the largest number is
    a) 73
    b) 91
    c) 67
    d) 57
18. If $P = (2)(4)(6) \ldots \ldots (20)$ and $Q = (1)(3)(5) \ldots (19)$, then the HCF of $P \; and \; Q$ is
    a) $(3^3)(5)(7)$
    b) $(3^4)(5)$
    c) $(3^4)(5^2)(7)$
    d) $(3^3)(5^2)$
19. The number $3^{13} - 3^{10}$ is divisible by
    a) 2 and 3
    b) 3 and 10
    c) 2, 3 and 10
    d) 2, 3 and 13
20. Which of the following will have a terminating decimal expansion?
    a) $\frac{77}{210}$
    b) $\frac{23}{30}$
    c) $\frac{125}{441}$
    d) $\frac{23}{8}$
21. For any natural number n, 9^n cannot end with the digit.
    a) 1
    b) 2
    c) 9
    d) None of these

22. A number lies between 300 and 400. If the number is added to the number formed by reversing the digits, the sum is 888 and if the unit's digit and the ten's digit change places, the new number exceeds the original number by 9. Then the number is
    a) 339
    b) 341
    c) 378
    d) 345

23. 1. The LCM of x and 18 is 36.
    2. The HCF of x and 18 is 2.

    What is the number ?

    a) 1
    b) 2
    c) 3
    d) 4

24. A circular field has a circumference of 360 km. Two cyclists Sumeet and John start together and can cycle at speeds of 12 km/h and 15 km/h respectively, round the circular field. They will meet again at the starting point after
    a) 40 h
    b) 30 h
    c) 180 h
    d) 120 h

25. If n is an even natural number, then the largest natural number by which $n(n+1)(n+2)$ is divisible is
    a) 6
    b) 8
    c) 12
    d) 24