X- MATHS – UNIT -2 – MODEL QUESTION PAPER – 2024

TOTAL MARK : 25 M

Answer any TEN questions (10 x 2 = 20m)

1. Show that the square of an odd integer is of the form $4q+1$, for some integer q.

2. Find the greatest number that will divide 445 and 572 leaving remainders 4 and 5 respectively.

3. Find all positive integers, when divided by 3 leaves remainder 2.

4. Prove that the product of two consecutive positive integers is divisible by 2.

5. Is   7 X 5 X 3 X 2 + 3 a composite number? Justify your answer

6. Find the remainders when 70004 and 778 is divided by 7

7. A man starts his journey from Chennai to Delhi by train. He starts at 22.30 hours on Wednesday. If it takes 32 hours of travelling time and assuming that the train is not late, when will he reach Delhi?

8. Find the number of terms in the A.P. 3, 6, 9, 12,…, 111.

9. Find the 8th term of the G.P. 9, 3, 1,…

10. How many terms of the series   1+4 +1 6 +…………..make the sum 1365?

11. Find the sum 2 + 4+ 6 +……+ 80

12. The sum of the cubes of the first n natural numbers is 2025, then find the value of n.

13. Find the sum of all odd positive integers less than 450

Answer any ONE questions (1 x 5 = 5m)

14. The duration of flight travel from Chennai to London through British Airlines is approximately 11 hours. The airplane begins its journey on Sunday at 23:30 hours. If the time at Chennai is four and half hours ahead to that of London's time,

then find the time at London, when will the flight lands at London Airport

15. A mother divides ₹207 into three parts such that the amount are in A.P. and gives it to her three children. The product of the two least amounts that the children had ₹4623. Find the amount received by each child.

16. The houses of a street are numbered from 1 to 49. Senthil's house is numbered such that the sum of numbers of the houses prior to Senthil's house is equal to the sum of numbers of the houses following Senthil's house. Find Senthil's house number?

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