18PDM301L – Analytical and Logical Thinking Skills

Worksheet – AP, GP and HP

1. Find the 15th term of the sequence 20, 15, 10…
   a) 95   b) 75   c) -50   d) -75

2. Find the sum of all the terms in the series 3, 7, 11…83
   a) 853   b) 863   c) 903   d) 893

3. The first and last terms of an AP are 22 and -11 respectively. The sum of the terms of that AP is 66, Find the number of terms.
   a) 11   b) 12   c) 10   d) 8

4. Find the first term of an AP, If the 8th and 12th terms of that AP are 39 and 59 respectively.
   a) 5   b) 4   c) 3   d) None of these

5. Sum of first 3 terms of an AP is 15 and sum of their squares is 83. Find the third term of that AP.
   a) 8   b) 6   c) 5   d) 7

6. Sixth term of an AP is 11, Find the sum of first 11 terms in that AP
   a) 22   b) 121   c) 66   d) 11

7. How many terms are there in the GP 3,6,12,24…1536 ?
   a) 12   b) 11   c) 10   d) 9

8. Eighth term of a GP is 16 times the fourth term. If its fifth term is 48, find the first term.
   a) 3   b) 4   c) 5   d) Cannot be determined

9. In a GP 5th term is 3. Calculate the product of first 9 terms.
   a) 729   b) 19683   c) 1963   d) 21633

10. A man agrees to work at the rate of 1rupee for the first day, 2 rupees for the second day, 4 rupees for the third day and so on. How much money will he earn for first 15 days ?
   a) 2 ^ 15   b) 2 ^ 14   c) (2^15) – 1   d) (2^14 – 1)

11. The ratio of sum of first three terms of GP to the sum of first six terms is 125 : 152. Calculate the common ratio of that GP.
   a) 2/5   b) 3   c) 3/5   d) 5/8

12. 3 Geometric means are inserted between 1/8 and 32. What is the second GM inserted?

      a) ½   b) 2   c) 8   d) Cannot be determined

13. Calculate the sum of all natural numbers between 200 and 400 which are divisible by 7.

      a) 8729   b) 2765   c) 8000   d) 7525

14. P and Q are 2 natural numbers whose AM is 13 and GM is 5. Which of the following is the possible value of P?

      a) 25   b) 20   c) 49   c) 10

15. There are n squares whose areas are in GP then their sides are in _____

      a) AP   b) GP   c) HP   d) Cannot be determined

16. A ball is dropped from a height of 900m. Every time it bounces to 2/3 of the height that it has fallen through. Find the total distance travelled by the ball before it comes to rest.

      a) 2700m   b) 3600m   c) 4500m   d) None of these

17. How many terms are identical in the two Aps 1, 3, 5... 120 terms and 3, 6, 9... 80 terms?

      a) 60   b) 40   c) 120   d) 80

18. Calculate $2/5 + 3/5^2 + 2/5^3 + 3/5^4...$

      a) 24/25   b) 13/25   c) 37/25   d) 13/24

19. The sum of n terms of 2 APs are in the ratio (5n+4) : (9n+6). Find the ratio of their 18th terms.

      a) 94:168   b) 47:84   c) 9:15   d) 179:321

20. The 3rd and 7th terms of a HP are 6/19 and 2/9 respectively. Find the first term of that HP.

      a) 2/5   b) 2/3   c) 3/5   d) None of these