5. Arithmetic Progressions

8 Marks:

1) Exercise – 5.2 → 9, 18, 19 in page No's – 124, 126

2) Example – 13 in page No: 132

3) Examples – 15, 16 in page No: 134

4) Exercise – 5.3 → 4, 6, 8, 7, 9, 10, 11, 15, 16, 17, 18, 19, 20 problems in page No's – 138, 140

4 Marks:

1) Examples – 4, 5 in page No – 116

2) Example – 7 in page No – 118

3) Example – 10 in page No – 122

4) Exercise – 5.2 → 7, 13, 14, 17 problems in page No's – 124, 126

5) n^{th} term formula and its terms

6) Sum of n terms formula and its terms

7) Exercise – 5.3 → 5, 12, 13, 14, 15, 16, 17 problems in page No's – 138

8) Find the sum of two digit numbers which are divisible by 5.

9) If the nth term of an AP is $3 + 4n$, then find its common difference?

10) $-20, -18, -16, \ldots$ which term of this AP is a first positive term?

1 Mark:

1) If nth term of an A.p. is $a_n = 2n - 6$ then Match the following

   i) a_2 P) 0

   ii) a_3 q) 2

   iii) a_4 r) -2

2) 10th term of an A.p. $10, 5, 0, -5, \ldots$ is ____

3) The nth term of AP is $a_n = 3n-5$, then Match the following:

    i) a_1 P) 4

    ii) a_2 q) 1

    iii) a_3 r) -2

4) If a, b, c are in AP, then $b =$ ———

5) If the sum of n terms of an A.p. is given by $S_n = n^2$ then Match the following

    i) a_1 a) 1

    ii) a_2 b) 3

    iii) a_3 c) 4

           d) 5

6) If $a_n = 3n+2$ then match the following:

    A) a_2 1) 17

    B) a_5 2) 3

    C) d 3) 8

7) $4, 6, 8, 10, \ldots$ in A.p. then 10th term is ———

8) Match the following A.p's with their common difference

    i) $-1, 1, 3, 5, \ldots$ a) 0.2

    ii) $1, -1, -3, -5, \ldots$ b) 2

    iii) $1.0, 1.2, 1.4, \ldots$ c) -2

9) Write the formula for sum of n terms in Ap.

10) Match the following:

    a) In A.p. $a_n =$ ———   i) $\frac{n}{2}\left[2a+(n-1)d\right]$

    b) In Ap $8, 16, 24, 32, \ldots$ ii) Multiples of 8

    c) In A.p. $S_n =$ ———   iii) $a + (n-1)d$

11) $1, 3, 5, 7, 9 \ldots$ are in A.p. then match the following:

    1) First term (a)   a) n^2

    2) Common difference (d)   b) 2

    3) Sum of n terms (S_n) c) 1

12) If the first term of an AP is a and nth term is b, then its common difference is ——

13) If the nth term of an AP is $2n+1$, then the sum of first 'n' terms of the AP is ——

14) Which of the following is not form of an AP?

A) $x, 2x, 3x, 4x \cdots$ B) $-2, 0, 2, 4 \cdots$ C) $25, 21, 17, 13 \cdots$ D) $-5, 5, -15, 25 \cdots$

15) Sum of first 101 whole numbers is ——

16) AP is $-18, -16, -14, \cdots$ then n^{th} term is ——

17) If $3, x, 11$ are in A.P., then $x =$ ——

18) The sum of first five multiples of 7 is ——

19) If in an AP, $a_7 - a_3 = 32$, then common difference of this AP is ——

20) Match the following:

P) Sum of first 10 natural numbers   i) 110

9) Sum of first 10 odd natural numbers   ii) 55

r) Sum of first 10 even natural numbers   iii) 100

21) A Sum of first 10 terms of AP: $4, 8, 12 \cdots$ is ——

22) nth term of AP is ——

23) If 7 times the 7th term of an AP is equal to 11 times its 11th term, then its 18th term is ——

24) What is the sum of first 'n' natural numbers?

25) If $S_n = 4n - n^2$ then Match the following:

i) a_1 a) -1

ii) a_2 b) 3

iii) a_3 c) 1