QUESTION – 1

Consider the arithmetic sequence 5 , 8 , 11 , . . .

 a) **What is the common difference of the sequence ?**

 b) **How many times the common difference is to be added to the first term to get the 10th**

   term ?

c) **What number is to be added to the 10th term to get the 15th term ?**

d) **Find the 25th term of the sequence .**

QUESTION – 2

3rd term of an arithmetic sequence is 13   and its 9th term is 37 .

a) **What is its common difference ?**

b) **What is its first term ?**

c) **Write the algebraic form of the sequence .**

d) **What is the remainder got when each term of this sequence is divided by the   common**

   difference ?

QUESTION – 3

Algebraic form of an arithmetic sequence is   5n + 2   .

a) **What is its first term ?**

b) **What is its common difference   ?**

c) **Find the position of 152 in this sequence   ?**

QUESTION – 4

Consider the arithmetic sequence   5 , 9 , 13 , . . .

a) **What is its common difference ?**

b) **Write the algebraic form of the sequence .**

SARATH A S , VMC GHSS WANDOOR , MALAPPURAM

c) Find the position of   25 in this sequence ?

d) What is the remainder got when each term of this sequence is divided by the   common

   difference ?

e) Check whether 81 is a term of this sequence or not .

f) Prove that the squares of all the terms of this sequence belong to it .

<p style="text-align:center;">**QUESTION – 5**</p>

Fill up the empty cells of the given square such that the numbers in each row, each column

and both diagonals form arithmetic sequences .

4		16
14		

<p style="text-align:center;">**QUESTION – 6**</p>

 The sum of the first 5 terms of an arithmetic sequence is   65 and the sum of the first 11

 terms is 275 .

a) Find the 3rd and 6th terms of this sequence .

b) What is its common difference ?

c) What is its first term ?

d) Write the algebraic form of the sequence .

<p style="text-align:center;">**QUESTION – 7**</p>

 The sum of the first 10 terms of an arithmetic sequence is   230   and its 4th term is 17 .

a) What is the sum of the first and the 10^{h} terms of this sequence ?

b) What is its 7th term ?

c) What is its common difference ?

d) What is the sum of the first 9 terms of the sequence ?

QUESTION – 8

Find the sums of the following . In each of the questions below , the terms are in arithmetic sequence .

a) 1 + 2 + 3 + . . . + 20

b) 4 + 8 + 12 + . . . + 80

c) 5 + 9 + 13 + . . . + 81

d) 10 + 19 + 28 + . . . + 181

QUESTION – 9

Look at the number pattern given below .

1

2   3

4   5   6

7   8   9   10

....

....

a) Write the next two more lines of this number pattern .

b) What is the last number in the 10th line ?

c) What is the first number in the 11th line ?

d) How many numbers are there in the 11th line ?

e) What is the sum of the numbers in the 11th line ?

Look at the number pattern given below .

    1

    2   3   4

    5   6   7   8   9

  10   11   12 13 14 15 16

  ...

  ...

a) **Write the next two more lines of this number pattern .**

b) **What is the last number in the 9th line ?**

c) **What is the first number in the 10th line ?**

d) **How many numbers are there in the 10th line ?**

e) **What is the sum of the numbers in the 10th line ?**

Look at the number patterns given below .

1			**4**		
2	**3**		**7**	**10**	
4	**5**	**6**	**13**	**16**	**19**
7	**8**	**9**	**10**		

22	**25**	**28**	**31**

  ....   **.................................**

  ..   **..**

      (Number pattern 1)   **(Number pattern 2)**

a) **Write the next two more lines of the first number pattern .**

b) What is the last number in the 9th line of the first number pattern ?

c) What is the first number in the 10th line of the first number pattern ?

d) Write the algebraic form of the arithmetic sequence 4 , 7 , 10 , . . .

e) What are the first and the last numbers in the 10th line of the second number pattern ?

<div align="center">**QUESTION – 12**</div>

Consider the arithmetic sequence 5 , 7 , 9 , . . .

a) What is its common difference ?

b) Write the nth term of the sequence .

c) What is the sum of the first n terms of the sequence ?

d) Prove that the sum of any terms of this sequence starting from the first , added to 4

gives a perfect square .

<div align="center">**QUESTION – 13**</div>

The e sum of the first n terms of an arithmetic sequence is $2n^2 + 3n$.

a) What is the fist term of the sequence ?

b) What is the common difference of the sequence   ?

c) Write the nth term of the sequence .

<div align="center">**QUESTION – 14**</div>

a) Consider the arithmetic sequence   5 , 9 , 13 , . . .

i) What is the common difference of this sequence ?

ii) Write the algebraic form of of this sequence ?

iii) What is the 20th term of of this sequence ?

iv) What is the sum of the first 20 terms of of this sequence ?

b) What is the difference between the sum of the first 20 terms of the arithmetic sequence

5 , 9 , 13 , . . . and the sum of the first 20 terms of the arithmetic sequence with

algebraic form $4n + 3$.

The sum of the first 10 terms of an arithmetic sequence is equal to the sum of the next 9 terms . Common difference of this sequence is 2 .

  a) How many times the common difference is to be added to the *first term* to get the 11th term of this sequence ?

  b) What is the difference between the 19th and the 9th terms of this sequence ?

  c) What is its 10th term ?