

# WANDOOR GANITHAM – S.S.L.C STUDY MATERIAL 2021

## FOCUS AREA - EASY REVISION - ARITHMETIC SEQUENCES

1	<p>a) Write down the sequence of natural numbers ending in 1 ?</p> <p>b) Check whether the sequence obtained above is an arithmetic sequence or not ?</p>
2	<p>a) Write down the sequence of natural numbers ending in 3 ?</p> <p>b) Check whether the sequence obtained above is an arithmetic sequence or not ?</p>
3	<p>a) Write down the sequence of natural numbers ending in 2 or 7 ?</p> <p>b) Check whether the sequence obtained above is an arithmetic sequence or not ?</p>
4	<p>a) Write down the sequence of natural numbers ending in 3 or 8 ?</p> <p>b) Check whether the sequence obtained above is an arithmetic sequence or not ?</p>
5	<p>a) Write an arithmetic sequence of first term 5 and common difference 3 ?</p> <p>b) What is its 5<sup>th</sup> term ?</p> <p>c) What is its algebraic form ?</p> <p>d) What is the remainder when each term of this sequence is divided by the common difference ?</p>
6	<p>a) Write an arithmetic sequence of first term 8 and common difference 6 ?</p> <p>b) What is its 10<sup>th</sup> term ?</p> <p>c) What is its algebraic form ?</p> <p>d) What is the remainder when each term of this sequence is divided by the common difference ?</p>
7	<p>a) Write an arithmetic sequence of first term 2 and common difference 7 ?</p> <p>b) What is its 13<sup>th</sup> term ?</p> <p>c) What is its algebraic form ?</p> <p>d) What is the remainder when each term of this sequence is divided by the common difference ?</p>

8	<p>a) Write an arithmetic sequence of first term 4 and common difference 5 ?</p> <p>b) What is its 20<sup>th</sup> term ?</p> <p>c) What is its algebraic form ?</p> <p>d) What is the remainder when each term of this sequence is divided by the common difference ?</p>
9	<p>Consider the arithmetic sequence 6 , 10 , 14 , .....</p> <p>a) What is its common difference ?</p> <p>b) What is its 11<sup>th</sup> term ?</p> <p>c) What is its algebraic form ?</p> <p>d) Find the position of 402 in this sequence ?</p>
10	<p>Consider the arithmetic sequence 9 , 14 , 19 , .....</p> <p>a) What is its common difference ?</p> <p>b) What is its 15<sup>th</sup> term ?</p> <p>c) What is its algebraic form ?</p> <p>d) Find the position of 104 in this sequence ?</p>
11	<p>Consider the arithmetic sequence 2 , 5 , 8 , .....</p> <p>a) What is its common difference ?</p> <p>b) What is its 10<sup>th</sup> term ?</p> <p>c) What is its algebraic form ?</p> <p>d) Find the position of 149 in this sequence ?</p>
12	<p>Consider the arithmetic sequence 5 , 12 , 19 , .....</p> <p>a) What is its common difference ?</p> <p>b) What is its 12<sup>th</sup> term ?</p> <p>c) What is its algebraic form ?</p> <p>d) Find the position of 208 in this sequence ?</p>

- 13 Algebraic form of an arithmetic sequence is  $2n + 1$
- a) What is its common difference ?
  - b) What is its first term ?
  - c) What is its 20<sup>th</sup> term ?
  - d) What is the sum of first 20 terms of this sequence ?

- 14 Algebraic form of an arithmetic sequence is  $4n + 3$
- a) What is its common difference ?
  - b) What is its first term ?
  - c) What is its 10<sup>th</sup> term ?
  - d) What is the sum of first 10 terms of this sequence ?

- 15 Algebraic form of an arithmetic sequence is  $3n + 2$
- a) What is its common difference ?
  - b) What is its first term ?
  - c) What is its 11<sup>th</sup> term ?
  - d) What is its 21<sup>st</sup> term ?
  - e) What is the sum of first 21 terms of this sequence ?

- 16 Algebraic form of an arithmetic sequence is  $6n - 1$
- a) What is its common difference ?
  - b) What is its first term ?
  - c) What is its 7<sup>th</sup> term ?
  - d) What is its 13<sup>th</sup> term ?
  - e) What is the sum of first 13 terms of this sequence ?

17 Algebraic form of an arithmetic sequence is  $5n - 4$

- a) What is its common difference ?
- b) What is its first term ?
- c) What is its 12<sup>th</sup> term ?
- d) What is its 23<sup>rd</sup> term ?
- e) What is the sum of first 23 terms of this sequence ?

18 5<sup>th</sup> term of an arithmetic sequence is 15 and its 9<sup>th</sup> term is 27 .

- a) What is its common difference ?
- b) What is its first term ?
- c) What is its algebraic form ?
- d) Find the position of 120 in this sequence ?

19 8<sup>th</sup> term of an arithmetic sequence is 32 and its 15<sup>th</sup> term is 60 .

- a) What is its common difference ?
- b) What is its first term ?
- c) What is its algebraic form ?
- d) Find the position of 160 in this sequence ?

20 9<sup>th</sup> term of an arithmetic sequence is 66 and its 12<sup>th</sup> term is 87 .

- a) What is its common difference ?
- b) What is its first term ?
- c) What is its algebraic form ?
- d) Find the position of 73 in this sequence ?

21 6<sup>th</sup> term of an arithmetic sequence is 31 and its 12<sup>th</sup> term is 61.

- a) What is its common difference ?
- b) What is its first term ?
- c) What is its algebraic form ?

	d) Find the position of 201 in this sequence ?
22	<p>10<sup>th</sup> term of an arithmetic sequence is 19 and its 16<sup>th</sup> term is 31 .</p> <p>a) What is its common difference ?</p> <p>b) What is its first term ?</p> <p>c) What is its algebraic form ?</p> <p>d) Find the position of 99 in this sequence ?</p>
23	<p>Consider the arithmetic sequence 5 , 8 , 11 .....</p> <p>a) What is its common difference ?</p> <p>b) Can the difference between any two terms of this sequence be 50 ? Why ?</p> <p>d) Check whether 62 a term of this sequence ?</p>
24	<p>Consider the arithmetic sequence 7 , 11 , 15 .....</p> <p>a) What is its common difference ?</p> <p>b) Can the difference between any two terms of this sequence be 35 ? Why ?</p> <p>d) Check whether 123 a term of this sequence ?</p>
25	<p>Consider the arithmetic sequence 11 , 17 , 23 .....</p> <p>a) What is its common difference ?</p> <p>b) Can the difference between any two terms of this sequence be 77 ? Why ?</p> <p>d) Check whether 245 a term of this sequence ?</p>
26	<p>Consider the arithmetic sequence 5 , 9 , 13 , .....</p> <p>a) What is its common difference ?</p> <p>b) What is its 10<sup>th</sup> term ?</p> <p>d) Find the position of the term obtained by adding 40 to its 10<sup>th</sup> term ?</p>

27	<p>Consider the arithmetic sequence 9 , 15 , 21 , .....</p> <p>a) What is its common difference ?</p> <p>b ) What is its 12<sup>th</sup> term ?</p> <p>d) Find the position of the term obtained by adding 66 to its 12<sup>th</sup> term ?</p>
28	<p>Consider the arithmetic sequence 3 , 5 , 7 , .....</p> <p>a) What is its common difference ?</p> <p>b ) What is its 20<sup>th</sup> term ?</p> <p>d) Find the position of the term obtained by subtracting 10 from its 20<sup>th</sup> term ?</p>
29	<p>Consider the arithmetic sequence 10 , 18 , 26 , .....</p> <p>a) What is its common difference ?</p> <p>b ) What is its 15<sup>th</sup> term ?</p> <p>d) Find the position of the term obtained by subtracting 16 from its 15<sup>th</sup> term ?</p>
30	<p>Consider the sequence of two digit numbers which leave a remainder 1 on divisible by 2 .</p> <p>a) What is its common difference ?</p> <p>b) Which is the smallest and largest number in this sequence ?</p> <p>c) How many two digit numbers are there , which leave a remainder 1 on divisible by 2 ?</p> <p>d) What is the sum of such numbers ?</p>
31	<p>Consider the sequence of two digit numbers which leave a remainder 2 on divisible by 5 .</p> <p>a) What is its common difference ?</p> <p>b) Which is the smallest and largest number in this sequence ?</p> <p>c) How many two digit numbers are there , which leave a remainder 2 on divisible by 5 ?</p> <p>d) What is the sum of such numbers ?</p>

- 32 Consider the sequence of the three digit numbers that are multiples of 3 .
- What is its common difference ?
  - Which is the smallest and largest number in this sequence ?
  - How many three digit numbers that are multiples of 3 ?
  - What is the sum of such numbers ?
- 33 Consider the sequence of two digit numbers which leave a remainder 1 on divisible by 4 .
- What is its common difference ?
  - Which is the smallest and largest number in this sequence ?
  - How many two digit numbers are there , which leave a remainder 1 on divisible by 4 ?
  - What is the sum of such numbers ?
- 34 Consider the sequence of the two digit even numbers .
- What is its common difference ?
  - Which is the smallest and largest number in this sequence ?
  - How many two digit even numbers are there ?
  - What is the sum of such numbers ?
- 35 Consider the sequence of the three digit odd numbers .
- What is its common difference ?
  - Which is the smallest and largest number in this sequence ?
  - How many three digit odd numbers are there ?
  - What is the sum of such numbers ?

**36 Find the following sums .**

a)  $1 + 2 + 3 + 4 + 5 + \dots + 20$

b)  $2 + 4 + 6 + 8 + 10 + \dots + 40$

c)  $3 + 5 + 7 + 9 + 11 + \dots + 41$

**37 Find the following sums .**

a)  $1 + 2 + 3 + 4 + 5 + \dots + 40$

b)  $5 + 10 + 15 + 20 + 25 + \dots + 200$

c)  $7 + 12 + 17 + 22 + 27 + \dots + 202$

**38 Find the following sums .**

a)  $1 + 2 + 3 + 4 + 5 + \dots + 60$

b)  $4 + 8 + 12 + 16 + 20 + \dots + 240$

c)  $9 + 13 + 17 + 21 + 25 + \dots + 245$

**39 Find the following sums .**

a)  $1 + 2 + 3 + 4 + 5 + \dots + 100$

b)  $3 + 6 + 9 + 12 + 15 + \dots + 300$

c)  $13 + 16 + 19 + 22 + 25 + \dots + 310$

**40 Find the following sums .**

a)  $1 + 2 + 3 + 4 + 5 + \dots + 30$

b)  $6 + 12 + 18 + 24 + 30 + \dots + 180$

c)  $5 + 11 + 17 + 23 + 29 + \dots + 179$

**41 Find the following sums .**

a)  $1 + 2 + 3 + 4 + 5 + \dots + 20$

b)  $10 + 20 + 30 + 40 + 50 + \dots + 200$

c)  $6 + 16 + 26 + 36 + 46 + \dots + 196$

42	<p>Consider the arithmetic sequence 6, 10, 14, .....</p> <p>a) What is its common difference ?</p> <p>b) What is its 7<sup>th</sup> term ?</p> <p>c) What is the sum of first 13 terms of this sequence ?</p>
43	<p>Consider the arithmetic sequence 9, 14, 19, .....</p> <p>a) What is its common difference ?</p> <p>b) What is its 6<sup>th</sup> term ?</p> <p>c) What is the sum of first 11 terms of this sequence ?</p>
44	<p>Consider the arithmetic sequence 7, 13, 19, .....</p> <p>0a) What is its common difference ?</p> <p>b) What is its 11<sup>th</sup> term ?</p> <p>c) What is the sum of first 21 terms of this sequence ?</p>
45	<p>Consider the arithmetic sequence 1, 11, 21, .....</p> <p>a) What is its common difference ?</p> <p>b) What is its 14<sup>th</sup> term ?</p> <p>c) What is the sum of first 27 terms of this sequence ?</p>
46	<p>The first term of an arithmetic sequence is 8 and its common difference is 5 .</p> <p>a) What is its 7<sup>th</sup> term ?</p> <p>b) What is the sum of first 13 terms of this sequence ?</p>
47	<p>The first term of an arithmetic sequence is 9 and its common difference is 4 .</p> <p>a) What is its 10<sup>th</sup> term ?</p> <p>b) What is the sum of first 19 terms of this sequence ?</p>

48	<p>8<sup>th</sup> term of an arithmetic sequence is 25 and its common difference is 3 .</p> <p>a) What is its 9<sup>th</sup> term ?</p> <p>b) What is the sum of first 17 terms of this sequence ?</p>
49	<p>12<sup>th</sup> term of an arithmetic sequence is 62 and its common difference is 5 .</p> <p>a) What is its 13<sup>th</sup> term ?</p> <p>b) What is the sum of first 25 terms of this sequence ? z</p>
50	<p>11<sup>th</sup> term of an arithmetic sequence is 78 and its common difference is 7 .</p> <p>a) What is its 10<sup>th</sup> term ?</p> <p>b) What is the sum of first 19 terms of this sequence ?</p>
51	<p>7<sup>th</sup> term of an arithmetic sequence is 55 and its common difference is 8 .</p> <p>a) What is its 6<sup>th</sup> term ?</p> <p>b) What is the sum of first 11 terms of this sequence ?</p>
52	<p>The algebraic form of an arithmetic sequence is <math>4n + 3</math> .</p> <p>a) What is its 10<sup>th</sup> term ?</p> <p>b) What is the sum of first 19 terms of this sequence ?</p>
53	<p>The algebraic form of an arithmetic sequence is <math>7n + 2</math> .</p> <p>a) What is its 5<sup>th</sup> term ?</p> <p>b) What is the sum of first 9 terms of this sequence ?</p>
54	<p>The algebraic form of an arithmetic sequence is <math>10n - 5</math> .</p> <p>a) What is its 6<sup>th</sup> term ?</p> <p>b) What is the sum of first 11 terms of this sequence ?</p>
55	<p>The sum of first 5 terms of an arithmetic sequence is 30 and the sum of 9 terms is 90</p> <p>a) What is its 3<sup>rd</sup> term ?</p> <p>b) What is its 5<sup>th</sup> term ?</p>

c) What is its common difference ?

d) What is its first term ?

e) What is its algebraic form ?

56 The sum of first 7 terms of an arithmetic sequence is 70 and the sum of 11 terms is 154

a) What is its 4<sup>th</sup> term ?

b) What is its 6<sup>th</sup> term ?

c) What is its common difference ?

d) What is its first term ?

e) What is its algebraic form ?

57 The sum of first 3 terms of an arithmetic sequence is 27 and the sum of 13 terms is 377 .

a) What is its 2<sup>nd</sup> term ?

b) What is its 7<sup>th</sup> term ?

c) What is its common difference ?

d) What is its first term ?

e) What is its algebraic form ?

58 The sum of first 5 terms of an arithmetic sequence is 65 and the sum of 6 terms is 90

a) What is its 3<sup>rd</sup> term ?

b) What is its 6<sup>th</sup> term ?

c) What is its common difference ?

d) What is its first term ?

e) What is its algebraic form ?

59	<p>The sum of first 7 terms of an arithmetic sequence is 203 and the sum of 8 terms is 264</p> <p>a ) What is its 4<sup>th</sup> term ?</p> <p>b) What is its 8<sup>th</sup> term ?</p> <p>c) What is its common difference ?</p> <p>d) What is its first term ?</p> <p>e) What is its algebraic form ?</p>
60	<p>The sum of first 9 terms of an arithmetic sequence is 99 and the sum of 10 terms is 120 .</p> <p>a ) What is its 5<sup>th</sup> term ?</p> <p>b) What is its 10<sup>th</sup> term ?</p> <p>c) What is its common difference ?</p> <p>d) What is its first term ?</p> <p>e) What is its algebraic form ?</p>
61	<p>a) What is the common difference of the sequence 5 , 8 , 11 , ..... ?</p> <p>b) What is the common difference of the sequence 7 , 10 , 13 , ..... ?</p> <p>c) What is the difference between the fifth terms of the above sequences ?</p> <p>d) What is the difference between the sum of the first 5 terms of the above sequences?</p>
62	<p>a) What is the common difference of the sequence 6 , 10 , 14 , ..... ?</p> <p>b) What is the common difference of the sequence 9 , 13 , 17 , ..... ?</p> <p>c) What is the difference between the 9<sup>th</sup> terms of the above sequences ?</p> <p>d) What is the difference between the sum of the first 9 terms of the above sequences?</p>

- 63 a) What is the common difference of the sequence 5, 10, 15, .....
- b) What is the common difference of the sequence 9, 14, 19, .....
- c) What is the difference between the 11<sup>th</sup> terms of the above sequences ?
- d) What is the difference between the sum of the first 11 terms of the above sequences

64 Look at the number pattern given below.

1

2 3

4 5 6

7 8 9 10

.....

.....

- a) Write down the next two more lines of this pattern ?
- b) How many numbers are there in the 10<sup>th</sup> line ?
- c) What is the last number in the 9<sup>th</sup> line ?
- d) What are the first and last numbers in the 10<sup>th</sup> line ?

65 Look at the number pattern given below.

1

2 3

4 5 6

7 8 9 10

.....

.....

- a) Write down the next two more lines of this pattern ?
- b) How many numbers are there in the 20<sup>th</sup> line ?
- c) What is the last number in the 19<sup>th</sup> line ?
- d) What are the first and last numbers in the 20<sup>th</sup> line ?

66 Look at the number pattern given below.

1  
2 3  
4 5 6  
7 8 9 10

.....  
.....

- a) Write down the next two more lines of this pattern ?
- b) How many numbers are there in the 15<sup>th</sup> line ?
- c) What is the last number in the 14<sup>th</sup> line ?
- d) What are the first and last numbers in the 15<sup>th</sup> line ?

67 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 down the next line of this pattern ?
- b) Write the sequence of last numbers in each line of the pattern ?
- c) What is the last number in the 9<sup>th</sup> line ?
- d) What are the first and last numbers in the 10<sup>th</sup> line ?
- e) How many numbers are there in the 10<sup>th</sup> line ?

68 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 down the next line of this pattern ?
- b) Write the sequence of last numbers in each line of the pattern ?
- c) What is the last number in the 11<sup>th</sup> line ?
- d) What are the first and last numbers in the 12<sup>th</sup> line ?
- e) How many numbers are there in the 12<sup>h</sup> line ?

69 The sum of the 10<sup>th</sup> and 11<sup>th</sup> terms of an arithmetic sequence is 67 .

- a) What is the sum of the first and 20<sup>th</sup> terms of this sequence ?
- b) What is the sum of first 20 terms of this sequence ?

70 The sum of the 8<sup>th</sup> and 15<sup>th</sup> terms of an arithmetic sequence is 44 .

- a) What is the sum of the first and 22<sup>nd</sup> terms of this sequence ?
- b) What is the sum of first 22 terms of this sequence ?

71 The sum of the 11<sup>th</sup> and 14<sup>th</sup> terms of an arithmetic sequence is 75 .

- a) What is the sum of the first and 24<sup>th</sup> terms of this sequence ?
- b) What is the sum of first 24 terms of this sequence ?

72 The sum of the 5<sup>th</sup> and 13<sup>th</sup> terms of an arithmetic sequence is 72 .

- a) What is the sum of the first and 17<sup>th</sup> terms of this sequence ?

	<p>b) What is its 9<sup>th</sup> term ?</p> <p>c) What is the sum of first 17 terms of this sequence ?</p>
73	<p>The sum of the 7<sup>th</sup> and 15<sup>th</sup> terms of an arithmetic sequence is 44 .</p> <p>a) What is the sum of the first and 21<sup>st</sup> terms of this sequence ?</p> <p>b) What is its 11<sup>th</sup> term ?</p> <p>c) What is the sum of first 21 terms of this sequence ?</p>
74	<p>The sum of the 11<sup>th</sup> and 19<sup>th</sup> terms of an arithmetic sequence is 66 .</p> <p>a) What is the sum of the first and 29<sup>th</sup> terms of this sequence ?</p> <p>b) What is its 15<sup>h</sup> term ?</p> <p>c) What is the sum of first 29 terms of this sequence ?</p>
75	<p>The sum of first 30 terms of an arithmetic sequence is 930 .</p> <p>a) What is the sum of the first and 30<sup>th</sup> terms of this sequence ?</p> <p>b) What is the sum of the 15<sup>th</sup> and 16<sup>th</sup> terms of this sequence ?</p>
76	<p>The sum of first 20 terms of an arithmetic sequence is 140 .</p> <p>a) What is the sum of the first and 20<sup>th</sup> terms of this sequence ?</p> <p>b) What is the sum of the 10<sup>th</sup> and 11<sup>th</sup> terms of this sequence ?</p>