WANDOOR GANITHAM - S S L C FINAL TEST 2021

1311E **FOCUS AREA – ARITHMETIC SEQUENCES**

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

a) What is common difference ?

b) What is algebraic form ?

c) Find the position of 302 in this sequence ?

d) Check whether 100 a term of this sequence or not ? **(4)**

2) 6^{th} term of an arithmetic sequence is 27 and its 10^{th} term is 43 .

a) What is common difference ?

b) What is its 11^{th} term ?

c) What is the sum of first 21 terms of this sequence ? **(3)**

3) Consider the arithmetic sequence 5 , 6 , 7 , ...

a) What is common difference ?

b) What is algebraic form ?

c) Find the position of the term whose square is 400 ? **(3)**

4) The sum of first 20 terms of an arithmetic sequence is 480 .

a) What is the sum of its first and 20^{th} terms ?

b) If the 10^{th} term is 23 , what is its 11^{th} term ?

c) What is common difference ?

d) Can the difference between any two terms of this sequence be 625 ? Why ? **(5)**

5) Find the following sums .

a) $1 + 2 + 3 + \ldots\ldots\ldots\ldots + 20$

b) $3 + 6 + 9 + \ldots\ldots\ldots\ldots + 60$

c) $\frac{3}{10} + \frac{6}{10} + \frac{9}{10} + \ldots\ldots\ldots\ldots + \frac{60}{10}$ **(3)**

6) Look at the number pattern given below.

1

2 3

4 5 6

7 8 9 10

.....

a) Write the next line of this pattern ?

b) How many numbers are there in the 20 th line ?

c) What is the last number in the 19 th line ?

d) What is the first number in the 20 th line ?

e) What is the sum of the numbers in the 20 th line ? **(5)**

7) 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 line of this pattern ?

b) Write the sequence of last numbers in each line ?

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

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

e) How many numbers are there in the 20 th line ? **(5)**

8) Consider the arithmetic sequence 6 , 10 , 14 , ...

a) What is its common difference ?

b) What is its algebraic form ?

c) Find the position of the term got by adding 100 to its 20^{th} term ?

d) Find the position of the term got by subtracting 96 from its 45^{th} term ? (4)

9) Consider the sequence of two digit numbers which leave a remainder 1 on divisible by 5 .

a) What is its common difference ?

b) Which is the smallest and largest numbers in this sequence ?

c) What is algebraic form of this sequence ?

d) How many two digit numbers are there which leave a remainder 1 on divisible by 5 ?

e) What is the sum of such numbers ? (5)

10) a) Write the sequence of natural numbers ending in 2 ?

b) Write the sequence of natural numbers ending in 2 or 7 ?

c) Is there any perfect square in the above sequences ? (3)

11) The sum of 10^{th} and 11^{th} terms of an arithmetic sequence is 109 .

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

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

c) If 5^{th} term is 27 , what is its 16^{th} term ?

d) What is the common difference of the sequence ?

e) What is the algebraic form of the sequence ?

12) 20^{th} term of an arithmetic sequence is 10 and its 10^{th} term is 20 .

a) What is its common difference ?

b) What is its 30^{th} term ?

c) What is the product of first 50 terms of this sequence ? (3)

13) Find the following sums .

a) 1 + 2 + 3 + ... + 40

b) 2 + 4 + 6 + ... + 80

c) 1 + 3 + 5 + ... + 79

d) 3 + 7 + 11 + ... + 159

e) 4 + 9 + 14 + ... + 199 **(5)**

14) The sum of first 10 terms of an arithmetic sequence is 120 and the sum of first 12 terms is 168 .

a) What is the sum of 11^{th} and 12^{th} terms of this sequence ?

b) What is the sum of first 22 terms of this sequence ?

c) If the 22^{nd} term is 45 , what is its 11^{th} term ?

d) What is is first term ? **(5)**

15)The sum of first 9 terms of an arithmetic sequence is 117 and the sum of first 14 terms is 252 .

a) What is its 5^{th} term ?

b) What is the sum of the terms from 10^{th} to 14^{th} of this sequence ?

c) What is its 12^{th} term ?

d) What is the sum of first 16 terms of this sequence ? **(5)**

16) a) What is the algebraic form of the sequence 6 , 7 , 8 , ... **?**

b) What is the algebraic form of the sequence $\frac{6}{5}$, $\frac{7}{5}$, $\frac{8}{5}$, ... **?**

c) If the algebraic form of an arithmetic sequence is $\frac{n}{5}+1$ **, what is the first natural number in this sequence ?**

d) If the algebraic form of an arithmetic sequence is $\frac{n}{5}+1$ **, what is the 10^{th} natural number in this sequence ?** **(4)**