DEPARTMENT OF GENERAL EDUCATION

DIET ERNAKULAM

VAIBHAVAM 2021

SSLC ACADEMIC SUPPORT

MATHEMATICS

T2

TIME : 45 Minutes

Max. Marks : 20

Instruction

- Give explanations where ever necessary

1) Find the common difference of the sequence 8, 15, 22, ... [1]

2) What is the height of the cone with slant height 5cm and base radius 3cm ? [1]

3) If the n^{th} term of a sequence is 5n + 2. then find its

   (a) first term. [1]

   (b) common difference [1]

4) If 5, 10, 15, 9, 11 are the marks of a few students in an examination, then find its

   (a) mean. [1]

   (b) median. [1]

5) The expression for the sum to n terms of an arithmetic sequence is $4n^2 + 5n$. Find

   (a) the sequence. [2]

   (b) the expression for the n^{th} term of this sequence. [1]

6) A cone with base radius 10cm and the slant height 25cm is formed by folding a sector. Then find,

   (a) the radius of the sector. [1]

   (b) the central angle of the sector. [2]

7) 5^{th} term of a sequence is 50 and the 10^{th} term is 70, then

   (a) find the common difference of this sequence. [1]

   (b) write down the sequence. [1]

   (c) calculate the sum of first 20 terms of this sequence. [2]

8) The daily wages of workers in a company are as follows.

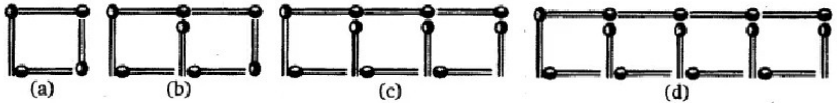
wages (in Rs)	200	250	300	350	400	450	500
Number of workers	2	4	5	7	5	4	3

Calculate

(a) the mean of the daily wages. [2]

(b) the median of the daily wages. [2]

9) Look at the pattern given below.



Write down

(a) the sequence of squares in each figure. [1]

(b) the sequence of match sticks used in each figure. [1]

(c) the number of match sticks used in 8^{th} figure if the pattern continues. [2]

(d) the sequence of rectangles(including the squares) in each figure. [1]

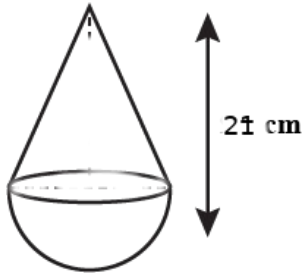
10) A hemisphere and a cone with same radius are joined together to form a solid as shown in the figure. The radius of the hemisphere is 9 cm and the total height of the solid is 21 cm.

Then calculate the,

(a) height of the cone. [1]

(b) volume of the cone. [2]

(c) total volume of the solid. [2]



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