Class:-10th   Mark's:-30
Sub.:- Math-1   Time:- 1:30 Hr

Q.1) Choose the correct alternatives for each of the following questions.   [5]

i) First four terms of an A.P. are ..., whose first term is -2 and common difference is -2.
   (A) -2, 0, 2, 4   (B) -2, 4,-8, 16
   (C) -2, -4, -6, -8   (D) -2, -4, -8, -16

ii) For an given A.P. a=3.5, d=0, n=101, then t_n=?
   (A) 0   (B) 3.5   (C) 103.5   (D) 104.5

iii) For the given A.P., if $t_{30}=2t_{15}$,then
   (A) a-d=0   (B) a+d=0   (C) a-2d=0   (D) a+2d=0

iv) If the first and last term of an A.P. are 18 and 82 respectively, then S_{25}=?
   (A) 2500   (B) 1250   (C) 800   (D) 625

v) The sequence -10, -13,-16, -19,..
   (A) is an A.P. Reason d=3   (B) is an A.P. Reason d=-3
   (C) is an A.P. Reason d=4   (D) is not an A.P.

Q.2) Answer the following questions. [Any-4]   [8]

i) Which term of the following A.P. is 560?
   2, 11, 20, 29,..

ii) Write the 25th term of an A.P. 12, 16, 20, 24

iii) 11, 8, 5, 2,... In this A.P. which term is number -151?

iv) Find how many three digit natural numbers are divisible by 5.

v) Give Arithmetic Progression is 12, 16, 20, 24,... Find the 24th term of this progression.

Q.3) Solve the following Questions.[Any-3]   [9]

i) In an A.P. sum of three consecutive terms is 27 and their product is 504,
   find the terms. (Assume that three consecutive terms in A.P. are a-d, a, a+d.)

ii) In a flower bed, there are 23 rose plants in the first row, 21 in the second,
   19 in the third and so on. There are 5 rose plants in the last row.
   How many rows are there in the flower bed?

iii) The 4th term of an A.P. is zero. Prove that the 25th term of the A.P. is three times
   its 11th term.

iv) Sum of 1 to n natural numbers is 36, then find the value of n.

Q.4) Attempt any two. [8]

i) In the year 2015 in the village there were 4000 people who were literate. Every year the number of literate people increases by 400. How many people will be literate in the year 2025?

ii) In winter, the temperature at a hill station from Monday to Friday is in A.P. The sum of the temperature of Monday, Tuesday and Wednesday is zero and the sum of the temperatures of Thursday and Friday is 15. Find the temperature of each of the five days.

iii) A man set out on a cycle ride of 50 km. He covers 5 km in the first four and during each successive four his speed falls by $\frac{1}{4}$ km/hr. How many hours will be take to finish his ride?

Best of Luck...

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