



RK VISION ACADEMY

NEET | IIT – JEE | FOUNDATION

CBSE PRACTICE PAPER(2024)

(Mathematics)

**Grade : X
marks**

Marks: 40

**Chapter: AP SET-1
minutes**

Time: 90

SECTION A

(This section comprises of Multiple-choice questions (MCQ) of 1 mark each.)

- If the n th term of an AP is $3n - 8$, then its 16th term is
(a) 30 (b) 20 (c) 10 (d) 40
- 30th term of the AP 10, 7, 4,, is
(a) 97 (b) 77 (c) -77 (d) -87
- If the first term of an AP is 2 and common difference is 4, then the sum of its 40 terms is
(a) 3000 (b) 2800 (c) 3200 (d) None of these
- If the first three terms of an AP are $x - 1$, $x + 1$, $2x + 3$, then the value of x is
(a) 1 (b) 2 (c) -1 (d) 0
- In an AP, if $d = -4$, $n = 7$, $a_n = 4$, then a is
(A) 6 (B) 7 (C) 20 (D) 28
- In an AP, if $a = 3.5$, $d = 0$, $n = 101$, then a_n will be
(A) 0 (B) 3.5 (C) 103.5 (D) 104.5
- The list of numbers $-10, -6, -2, 2, \dots$ is
(A) an AP with $d = -16$ (B) an AP with $d = 4$ (C) an AP with $d = -4$ (D) not an AP
- The 11th term of the AP: $-5, -5/2, 0, 5/2, \dots$ is
(A) -20 (B) 20 (C) -30 (D) 30
- The first four terms of an AP, whose first term is -2 and the common difference is -2 , are
(A) $-2, 0, 2, 4$ (B) $-2, 4, -8, 16$ (C) $-2, -4, -6, -8$ (D) $-2, -4, -8, -16$
- The 21st term of the AP whose first two terms are -3 and 4 is
(A) 17 (B) 137 (C) 143 (D) -143

SECTION B

(This section comprises of very short answer type-questions (VSA) of 2 marks each)

- 11 Find the sum of the series
 $7 + 10\sqrt{2} + 14 + \dots + 84$.
- 12 Sarita saved ₹ 5 in the first week of the year and then increased her weekly savings by ₹ 1.75 each week. In which week will her weekly savings be ₹ 20.75?
- 13 Shivangi started work in 1991 at an annual salary of ₹ 5000 and received an increment of ₹ 200 each year. In which year did his income reach ₹ 7000?

SECTION C

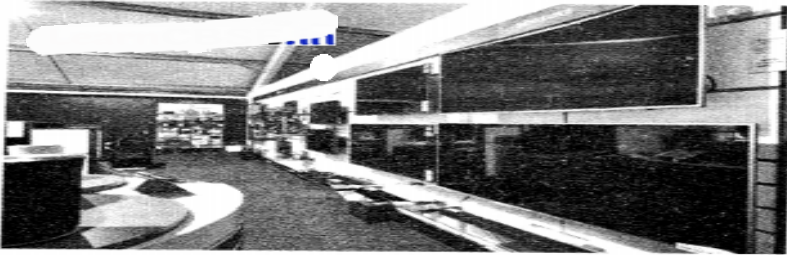
(This section comprises of short answer type questions (SA) of 3 marks each)

- 14 If the p th, q th and r th terms of an AP are a , b and c respectively, then show that
 $a(q - r) + b(r - p) + c(p - q) = 0$.
- 15 In an AP, if $S_n = 3n^2 + 5n$ and $a_k = 164$, find the value of k .
- 16 Find the sum of last ten terms of the AP: 8, 10, 12, ---, 126.

SECTION D

(This section comprises of long answer-type questions (LA) of 5 marks each)

- 17 Find the sum of first 51 terms of an AP -Those second and third terms are 14 and 18, respectively.
- 18 If the sum of first 7 terms of an AP is 49 and that of 17 terms is 289. Find the sum of first n terms.
- 19 India is competitive manufacturing location due to the low cost of manpower and strong technical and engineering capabilities contributing to higher quality production runs. The production of TV sets in a factory increases uniformly by a fixed number every year. It produced 16000 sets in 6th year and 22600 in 9th year.



On the basis of above information, answer the following questions.

- (i) Find the production during first year. (2)
- (ii) Find the production during 8th yr and first 3 yr. (2)
- (iii) In which year, the production is ₹ 29200. (1)