ALLEN CAREER INSTITUTE KOTA (RAJASTHAN) — path to success

JEE (Main+Advanced):NURTURE COURSE

TARGET : JEE (M+A) 2021

TOPIC : SEQUENCE & SERIES   DPP - 1

Que.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ans.	23	4n-4	17	2n	13/14		8729	3050	1210	d	a	c	b	b	a
Que.	16	17	18	19	20
Ans.	c	b	c	c	d

6.   Let the sum of n, 2n, 3n terms of an A.P. be S_1, S_2 and S_3. respectively, show that $S_3 = 3(S_2 - S_1)$.

$$S_1 = \frac{n}{2}\left(2a + (n-1)d\right)$$

$$S_2 = \frac{2n}{2}\left(2a + (2n-1)d\right)$$

$$S_3 = \frac{3n}{2}\left(2a + (3n-1)d\right)$$

$$S_2 - S_1 = \frac{n}{2}\left(4a + (4n-2)d - 2a - (n-1)d\right)$$

$$= \frac{n}{2}\left(2a + (3n-1)d\right)$$

$$S_3 = 3(S_2 - S_1)$$

ALLEN Digital Classroom support Classes and material will continue until lockdown is lifted after which classroom course will commence