

PRINCIPAL OF COMMUNICATION

1. An amplitude modulated wave is represented by the expression $v_m = 5(1 + 0.6 \cos 6280t) \sin(211 \times 10^4 t)$ volts. The minimum and maximum amplitudes of the amplitude modulated wave are, respectively :

(1) 5V, 8V (2) $\frac{3}{2}$ V, 5V

(3) $\frac{5}{2}$ V, 8V (4) 3V, 5V

SOLUTION

1. Official Ans. by NTA (3)

Official Ans. by ALLEN

(Close Option is 3 Amax. = 8, Amin. = 2)

Sol. $V_m = 5(1+0.6 \cos 6280t) \sin (2\pi \times 10^4t)$

$$V_m = [5+3\cos 6820t] \sin (2\pi \times 10^4t)$$

$$V_{\max.} = 5 + 3 = 8$$

$$V_{\min.} = 5 - 3 = 2$$