Trigonometric Functions - Class XI

Related Questions with Solutions

Questions

Quetion: 01

ABC is a triangle such that $\sin(2A+B)=\sin(C-A)=-\sin(B+2C)=\frac{1}{2}$. If A, B and C are in arithmetic progression, then

A. $A = 45°$
B. $B = 60°$
C. $C = 75°$
D. $A = 50°$

Solutions

Solution: 01

$$\text{Given } \sin(2A+B)=\sin(C-A)=-\sin(B+2C)=\frac{1}{2}$$

$$\text{As } A, B, C \text{ are in A.P. let these angles be } P-Q, P, P+Q$$

$$A+B+C=180^\circ \Rightarrow P=60^\circ$$

$$\sin(C-A)=\frac{1}{2} \Rightarrow \sin 2Q=\frac{1}{2} \Rightarrow Q=15^\circ$$

Thus angles are 45°, 60°, 75°

Correct Options

Answer:01
Correct Options: A, B, C