

Moderate

Assistant Engineer (Electrical), Class 2025

Building Department

Form factor is equal to peak factor in the case of

A

Square wave

Correct

B

Triangle wave

C

Saw tooth wave

D

Sinusoidal wave

Correct Answer: A

Full Detailed Explanation

Concept & Reasoning Peak factor is $V_{\text{peak}}/V_{\text{rms}}$, while form factor is $V_{\text{rms}}/V_{\text{avg(rectified)}}$. For a symmetrical square wave of amplitude V_m , the rms value is V_m and the average of the rectified waveform is also V_m . Thus both ratios are exactly 1. Other common waveforms have different rms, average and peak relationships, so their two factors are not equal.

How to Solve It in the Exam Write both definitions before comparing waveform tables.

Important Exam Point Never use signed full-cycle average for AC form factor because it would be zero for symmetrical AC.

Related Revision Path This question sits in the revision path Signals and Systems → Waveform Parameters → Form Factor .

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