Gate Question
EE:1205 Signals and Systems
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I. QUESTION GATE PH 56

Consider the complex function

$$f(z) = \frac{z^2 \sin z}{(z - \pi)^4}$$

At $z = \pi$, which of the following options is (are) correct?

1. The order of the pole is 4
2. The order of the pole is 3
3. The residue at the pole is $\frac{\pi}{6}$
4. The residue at the pole is $\frac{2\pi}{3}$