Michael Ma

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Question # 1
General Amplifier Considerations
25 Marks

Consider an amplifier operating from ±10-V power supplies. It is fed with a sinusoidal voltage having a 1-V peak and delivers a sinusoidal voltage output of 9-V peak to a 1-kΩ load. The amplifier draws a current of 9.5-mA from each of its two power supplies. The input current of the amplifier is found to be sinusoidal with a 0.1-mA peak. Find the voltage gain, the current gain, the power gain, the power drawn from the dc supplies, the power dissipated in the amplifier, and the amplifier efficiency.

Question # 3
The Inverting Configuration
25 Marks

Design the circuit shown below to have an input resistance of 100-kΩ and a gain that can be varied from −1 V/V to −100 V/V using the 100-kΩ potentiometer R_x. What voltage gain results when the potentiometer is set exactly at its middle value?