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Practice quiz types of dry etching equipment and plasma sources

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Questions:

0 points possible (ungraded)

1. Which of the following is a correct statement for an Inductively coupled plasma (ICP) etching system?

- ☐ The plasma can only be activated when the pressure is set to an extremely high value
- ☒ There are two RF power sources: one for generation of the plasma and one for generating the surface voltage bias
- ☐ A high voltage on the working electrode is needed, so that the plasma potential is kept at high values

- ☐ The electrical impedance of an ICP source is a capacitor in series with a small resistor



Explanation

An RF current in the ICP plasma is generated by one RF power source. The other RF power source is used to generate the surface voltage bias. The electrical impedance of an ICP source is an inductor in series with a small resistor. A capacitive coupling is needed to initiate the discharge. See "Types of dry etching equipment and plasma sources" video from 9:40 to 12:25 for more detailed explanations.

2. Which of these equipments can be used for directional physical etching?

- ☒ A diode reactor
- ☐ A barrel reactor
- ☐ An atomic layer chemical vapor deposition system
- ☐ A chemical downstream reactor



Explanation

Only the diode reactor is a viable directional physical etching tool, the rest of the answers are not related to this process. See "Types of dry etching equipment and plasma sources" video from 4:45 to 8:35 for more detailed explanations.

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