Assignment 3

You are required to select the most appropriate method(s) for the following processes:

1. Which of the following processes produces springs, standing rods or balls type of microstructure?
   - Thermochemical deposition (TCP)
   - Chemical vapor deposition (CVD)
   - Ion implantation
   - Plasma spraying
   - Brazing

   Accepted Answers:
   - TCP
   - CVD
   - Ion implantation
   - Plasma spraying
   - Brazing

2. Which of the following processes do not favor evaporation of metallic materials?
   - Liquid phase sintering
   - Indirect resistive heating
   - Inductive heating
   - All of these
   - None of these

   Accepted Answers:
   - All of these
   - None of these

3. Which of the following reactive gas is not introduced into the chamber while the metal is evaporated in reactive electron beam evaporation source?
   - Helium
   - Nitrogen
   - Oxygen
   - Hydrogen

   Accepted Answers:
   - Helium
   - Nitrogen
   - Oxygen
   - Hydrogen

4. Which of the following is a type of ion plating process?
   - Electrochemical deposition
   - Plasma assisted ion plating
   - Both A and B
   - None of these

   Accepted Answers:
   - Plasma assisted ion plating
   - Both A and B
   - None of these

5. In case of CVD process, more selective area deposition occurs due to:
   - Higher activation energy for reaction with foreign substances
   - Higher activation energy for reaction with foreign substances
   - Increased porosity of the substrate allowing infiltration of precursor
   - All of these

   Accepted Answers:
   - All of these

6. Which of the following is a type of CVD process?
   - Chemical vapor infiltration
   - Chemical vapor deposition
   - Chemical vapor reaction
   - None of these

   Accepted Answers:
   - Chemical vapor deposition

7. In vacuum polymer deposition process, the thickness of the polymer layer depends on which parameter?
   - Substrate temperature
   - Vacuum pressure
   - Both B and C
   - Independent of substrate temperature as well as vacuum pressure

   Accepted Answers:
   - Both B and C

8. In vacuum polymer deposition technique, the liquid film is almost dried into a solid layer by:
   - UV radiation
   - Sputtering
   - Both A and B
   - None of these

   Accepted Answers:
   - Both A and B

9. In case of superhard nanocomposite coatings, Hickman hardness should be:
   - 10–15 GPa
   - 15–20 GPa
   - 20–25 GPa
   - 30–40 GPa

   Accepted Answers:
   - 10–15 GPa

10. Which of the following methods can be used for making hydroxyapatite nanostructured coatings?
   - Plasma-sprayed
   - Chemical vapor deposition
   - Electroplating
   - All of these

   Accepted Answers:
   - All of these

Due on 2020-02-19, 23:59 IST.