

Unit 11 - Fabrication of a Smart Catheter

Course outline

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Introduction

Introduction to MEMS-based Sensors

Fundamentals of Fabrication Techniques

Fundamentals of Fabrication Techniques contd...

Fundamentals of Fabrication Techniques contd...

Application of Fabrication Technology

Fabrication of Sensors for Cancer Diagnosis

Fabrication of a Device to Determine Efficacy of Drugs

Fabrication of Microchip for Rapid Drug Screening

Fabrication of a Smart Catheter

Smart Catheter

Smart Catheter: Flexible Force Sensor

Smart Catheter: Flexible Force Sensor contd...

Tissue and Cell Culture Techniques

Week 9 Assignment Solutions

Quiz : Week 9 Assessment

Lab: Introduction to Cleanroom and Cleanroom Equipments

Lab: Introduction to Equipments in Cleanroom

Lab: Cleanroom Equipments and Demonstration

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Week 9 Assessment

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2019-10-02, 23:59 IST.

- 1) Identify the invasive medical procedure followed to diagnose/evaluate heart conditions 1 point
- Cardiac Catheterization
 - Computed Tomography
 - Optical Coherence Tomography
 - Magnetic Resonance Imaging

No, the answer is incorrect.
Score: 0

Accepted Answers:
Cardiac Catheterization

- 2) What is the type of energy used in catheter ablation procedure. (Ablation: Burning of small area of heart tissue) 1 point
- Infrared Frequency
 - Radio Frequency
 - Ultraviolet Frequency
 - Microwave

No, the answer is incorrect.
Score: 0

Accepted Answers:
Radio Frequency

- 3) If you are given an in-house fabricated MEMs force sensor (sensor is a few micrometers in dimension requiring high depth of focus and resolving power). Which imaging technique is the most optimal choice? 1 point
- Scanning Electron Microscopy
 - Compound Microscopy
 - Stereo microscopy
 - Inverted Microscopy

No, the answer is incorrect.
Score: 0

Accepted Answers:
Scanning Electron Microscopy

- 4) Photoresist is a photo sensitive polymer that is often used in lithography process for patterning. How is a uniform coating of resist on substrate achieved? 1 point
- Physical Vapour Deposition
 - Chemical Vapor Deposition
 - Spin Coating
 - Brush Coating

No, the answer is incorrect.
Score: 0

Accepted Answers:
Spin Coating

- 5) Below image shows cell culture in petri dish. Which among the following techniques qualifies the shown image 1 point



- Ex-Vivo
- In-Vitro
- In-Vivo
- None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
In-Vitro

- 6) Cells derived from a primary cell culture that demonstrate ability to propagate indefinitely is called 1 point
- Confluence
 - Passaging
 - Multiplexing
 - Cell Line

No, the answer is incorrect.
Score: 0

Accepted Answers:
Cell Line

- 7) Which among the following class does not fall under ISO Clean Room Classification 1 point
- Class 1000
 - Class 100
 - Class 10
 - Class 0

No, the answer is incorrect.
Score: 0

Accepted Answers:
Class 0

- 8) HEPA Filters are used to control particulate concentration in clean room. What does HEPA stand for? 1 point
- High Efficiency Particulate Array
 - High Energy Pressurized Air
 - Heavy Estimate Precipitate Air
 - High Efficiency Particulate Air

No, the answer is incorrect.
Score: 0

Accepted Answers:
High Efficiency Particulate Air

- 9) The MEMs-based force sensor integrated in catheter can generate signals of the order of _____ 1 point
- Megavolts
 - Microvolts
 - nanovolts
 - volts

No, the answer is incorrect.
Score: 0

Accepted Answers:
Microvolts

- 10) The transduction mechanism of force sensor is 1 point
- Mechanical to electrical
 - Electrical to mechanical
 - Optical to electrical
 - Optical to Mechanical

No, the answer is incorrect.
Score: 0

Accepted Answers:
Mechanical to electrical