
BioMEMS Overview Assessment

Participant Guide

Introduction

The purpose of this assessment is to determine your knowledge on bioMEMS and how they have evolved. It will also assess your knowledge on how we will benefit from further development of bioMEMS.

There are ten (10) assessment questions.

1. List three characteristic of MEMS devices.
2. One of the differences between MEMS and bioMEMS is that bioMEMS may use _____ for actuation, detection and analysis.
 - a. Thin films
 - b. Red blood cells
 - c. Biomolecules
 - d. Human tissue
3. List five categories of bioMEMS applications
4. List five potential advantages for the development of bioMEMS.
5. One of the constraints of some bioMEMS is that, if implanted, that it is not rejected by the host. Thus, to prevent host rejection, in vivo bioMEMS must be _____.
 - a. Biofouling
 - b. Biocompatible
 - c. Biosensitive
 - d. Biomolecular

6. What is it called when the body prevents an implanted bioMEMS from functioning properly?
 - a. Biofouling
 - b. Bio-incompatible
 - c. Bio-insensitive
 - d. Biointerference
7. Which of the following bioMEMS is considered a monitoring and therapeutic device?
 - a. ECG chest patch with heart monitor and transmitter
 - b. LOC with micropump and biosensors
 - c. MiniMED glucose sensor and micropump
 - d. BioLOCS's CD-ELISA
8. Which of the following fields of microtechnology has greatly enabled the development of POC and LOC devices?
 - a. Microfluidics
 - b. Micro-optics
 - c. RF transmission
 - d. Mechanical actuation
9. Biosensors are capable of identifying specific _____ within a sample.
 - a. DNA
 - b. Cells
 - c. Analytes
 - d. Fluids
10. Which of the following is the major drive for the development of LOCs?
 - a. A small and compact measuring device
 - b. Being able to be used in remote areas
 - c. Cost effectiveness
 - d. Ease of use by doctors and nurses

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