Week 8 Assignment

Due on 2019-09-20, 23:59 IST.

1. In the situation of our body can be misinterpreted in many ways by:
   - ECF culture
   - Microscopic slides
   - Microscopic slides with a periodic acid
   - All of these individually can be practiced
   - No, the answer is incorrect.

   Accepted answer: Microscopic slides

2. A mini-chemo is selected on silicon wafer followed by deposition of insulation layer. A metal layer is deposited and is patterned to get IDE structure. The fabrication process of this device is a __________ mask process.
   - Two
   - Three
   - Only one dependent and can be practiced
   - No, the answer is incorrect.

   Accepted answer: Two

3. In fabrication of microfluidic devices, PDMS can be used. PDMS belongs to the group of materials, commonly referred to as elastomers. Generally, PDMS is patterned by:
   - Optical lithography
   - Soft lithography
   - E-beam lithography
   - All of these
   - No, the answer is incorrect.

   Accepted answer: Soft lithography

4. The following statement is related to the experimental results that were discussed for the antibiotic susceptibility testing microfluidic chip:
   - Upon addition of antibiotics to the microfluidic chip containing the susceptible bacteria the normalized impedance decreases.
   - No, the answer is incorrect.

   Accepted answer: True

5. Consider following statements related to the microfluidic chip for rapid drug screening that was discussed:
   - The substrate used was silicon wafer
   - The optical sensor (fluorescence activated) were placed directly on top of the NOC microchannel

   Which of the above statements are true?
   - Only
   - Only one
   - Both need not be practiced
   - Neither nor
   - No, the answer is incorrect.

   Accepted answer: Both need not be practiced

6. With regard to the microfluidic chip for rapid drug screening that was discussed evaluate whether the following statement is true or false:
   - The normalized impedance of the drug susceptible bacteria decreases upon addition of the drug
   - True
   - False
   - No, the answer is incorrect.

   Accepted answer: True

7. In the microfluidic chip for rapid antibiotic susceptibility testing that you have seen in the lectures, the substrate was used for which purpose:
   - To capture the antibodies when they are immobilized
   - To capture the antibodies from the sample
   - To capture the bacteria from the sample
   - To enhance the killing of the bacteria by the drug
   - No, the answer is incorrect.

   Accepted answer: To capture the bacteria from the sample

8. For fabrication of SU-8 pillars, which one is the standard process flow:
   - Photomask coating, Soft bake (at 350°C), UV exposure, Development, Hard bake (at 350°C)
   - Photomask coating, Soft bake (at 350°C), UV exposure, Hard bake (at 350°C)
   - Photomask coating, Soft bake (at 350°C), UV exposure, Hard bake (at 350°C)
   - Photomask coating, Soft bake (at 350°C), UV exposure, Development, Hard bake (at 350°C)
   - No, the answer is incorrect.

   Accepted answer: Photomask coating, Soft bake (at 350°C), UV exposure, Hard bake (at 350°C)

9. Why bacteria is required in drug screening device?
   - A reduced temperature sensitivity increases
   - Mangostin is only a reduced temperature (~1.2°C)
   - To maintain normal body temperature on the ship
   - All of these
   - No, the answer is incorrect.

   Accepted answer: All of these

10. What platform for determining efficacy of a drug given much different than the dynamics system. The reason behind it is:
    - Human body is a dynamic system
    - Drugs cannot be properly phased on the tissue in static system
    - Human body acts in static system
    - Human body may be a dynamic system, but static replication given same result as dynamic system
    - No, the answer is incorrect.

    Accepted answer: Human body is a dynamic system