Week 4 Assignment

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment. Due on 2019-02-27, 23:59 IST.

1) "In the fabricated chip for cancer diagnosis, the heater can be used as electrode for electrical parameter sensing also." The statement is –

True
False

No, the answer is incorrect.
Score: 0
Accepted Answers:
False

2) What are the physical parameters measured to diagnose cancer? 1 point

i. Thermal conductivity
ii. Resistance offered
iii. Stiffness
iv. Capacitance
v. Refraction co-efficient

i, ii, iii
ii, iii, iv
iii, iv, v
All of these

No, the answer is incorrect.
Score: 0
Accepted Answers: i, ii, iii

3) What is the difference between a cancer cell and a normal cell? 1 point

Cancer cells divide irrepressibly whereas normal cells do not divide

No, the answer is incorrect.
Score: 0
Accepted Answers:
4) Microheaters are generally fabricated on a diaphragm structure. Why?

- For achieving higher sensitivity
- For achieving desired temperature by applying lower voltage
- To achieve high resistivity
- None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
Cancer cells do not differentiate after division where as normal cells differentiate after division

5) Which of the following is a good prognostic factor in detecting breast cancer?

- Tumour Grade III
- Lymphatic and vascular invasion
- Tumour size
- ER positivity

No, the answer is incorrect.
Score: 0

Accepted Answers:
For achieving desired temperature by applying lower voltage

6) Which of the following are the properties of SU-8 pillars?

- i. Heat resistance
- ii. Low resolution
- iii. Low sensitivity
- iv. Low etching resistance

No, the answer is incorrect.
Score: 0

Accepted Answers:
i only

7) What is metastatic Cancer.

- Cancer that has spread to another part of the body
- Cancer that exists in the place where it started
- Cancer that appears in only one place of the body
- All of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
Cancer that has spread to another part of the body

8) In video lecture you have seen, piezo resistive material is doped with boron. Why boron is diffused to silicon contact with gold pad in cantilever fabrication?

- To slow down oxidation of the layer
- To enhance adhesion
- To increase conductivity so that it can form an ohmic contact with gold
- All of these

No, the answer is incorrect.

Score: 0

Accepted Answers:
- To increase conductivity so that it can form an ohmic contact with gold

9) What is fine needle aspiration (FNA)

- FNA is a type of biopsy that removes cells through suction using a syringe
- FNA is a type of biopsy that removes cells by making a slit using a syringe
- FNA is a type of biopsy that removes breast by making a slit using a syringe
- All of these

No, the answer is incorrect.

Score: 0

Accepted Answers:
- FNA is a type of biopsy that removes cells through suction using a syringe

10) For the Electro-Thermo-Mechanical phenotyping of breast cancer tool that you have seen in the lectures, what was the technology used to fabricate the housing for the tool?

- Injection Moulding
- 3D Printing
- Laser Cutting of Acrylic Sheets
- Forming

No, the answer is incorrect.

Score: 0

Accepted Answers:
- 3D Printing

11) For the ETM study that you have been introduced to, the tissue used is “deparaffinized”. Why is paraffinizing done on tissues?

- To improve the measurement accuracy when the tissue is used to measure
- To preserve the tissue for future use
- To restrict the tissue sample to a definite size
- Paraffin embedded tissues give more accurate ETM measurements

No, the answer is incorrect.

Score: 0

Accepted Answers:
To preserve the tissue for future use

12] In the ETM phenotyping device, the tissue is heated from the tip of the indentor and its thermal properties are measured by the microchip kept below the tissue in the 3D printed housing*. The statement is –

- True
- False

No, the answer is incorrect.
Score: 0
Accepted Answers:
False

13] Which of the following is not a procedure to detect breast lump in a patient?

- MRI
- Mammography
- Chest x-ray
- Core needle biopsy

No, the answer is incorrect.
Score: 0
Accepted Answers:
Chest x-ray

14] Which of the following breast lesions are non-invasive malignancies?

- Tubular carcinoma in situ
- Lobular carcinoma in situ
- Intraductal carcinoma in situ
- All of these

No, the answer is incorrect.
Score: 0
Accepted Answers:
Intraductal carcinoma in situ

15] Base resistance value of Cr/ Au IDE structure with a spacing of 10 microns and 50 microns is x ohm and y ohm respectively. What is relationship between x and y?

- x > y
- x = y
- x < y
- Cannot be predicted

No, the answer is incorrect.
Score: 0
Accepted Answers:
x = y