

## Module 2 Exam

### Question 1

3 / 3 pts

True/False:

Blood tests for tumor markers can make a diagnosis of cancer. Why or why not?

Your Answer:

False. Because they are elevated in benign conditions, and most are not elevated during early part of malignant conditions.

**False, only tissue can diagnose. Tumor markers are helpful to assess response to therapy or reoccurrence.**

### Question 2

3 / 3 pts

Tissue biopsy is of critical importance in what role?

Your Answer:

Diagnosis of the correct cancer and histology.

**Diagnosing the correct cancer and histology.**

### Question 3

4 / 4 pts

1. List two signs or symptoms a patient may present with that might indicate a cancer diagnosis:

2. What are two systemic manifestations of cancer exhibited by cancer patients?

Your Answer:

1. Bleeding, chest pain

2. Wasting of body fats and muscle tissues, Anorexia

**1. Bleeding; sore that doesn't heal; fluid in the pleural, pericardial, or peritoneal spaces; chest pain, shortness of breath, cough, abdominal discomfort or swelling. Other possible answers can include a mass or lump, pain (need to be specific), fatigue, fevers, weight loss**

**2. Weight loss, wasting of body fat and muscle tissue, weakness, anorexia, and anemia, fatigue, sleep disturbances**

### Question 4

10 / 10 pts

Explain the TNM system:

Your Answer:

The TNM system is a detailed staging system used in cancer facilities. It classifies cancer using 3 tumor components, namely tumor, nodes and metastasis.

T is the size and local spread of the primary tumor

N is the involvement of the regional lymph node

M is the extent of the metastatic involvement

**T is the size and local spread of the primary tumor.**

**N is the involvement of the regional lymph nodes.**

**M is the extent of the metastatic involvement.**

#### Question 5

10 / 10 pts

1. What are the three possible goals of cancer treatment?

2. How does radiation kill cancer cells?

Your Answer:

1. Curative, control and palliative

2. Radiation uses high energy waves that damage or destroy cancer cells. They produce free radicals that can damage cell structure. Radiation can damage, kill cells or impair the DNA of the cell.

**1. Curative, control, palliative**

**2. Radiation therapy uses high-energy particles or waves to destroy or damage cancer cells. This leads to the creation of free radicals, which damage cell structures. Radiation can interrupt the cell cycle process, kill cells, or damage DNA in the cells.**

#### Question 6

2.5 / 2.5 pts

True/False:

Cell proliferation is the process in which proliferating cells become more specialized cell types.



True



False

False, cell differentiation

#### Question 7

0 / 2.5 pts

True/False:

Cell differentiation is the process in which proliferating cells become more specialized cell types.

**Correct Answer**



True



False

#### Question 8

2.5 / 2.5 pts

What are two important properties that stem cells possess?

Your Answer:

1. Self renewal
2. Potency

**Potency and self-renewal**

#### Question 9

0 / 2.5 pts

Which of the following are most likely to have arisen from an adult stem cell?



Muscle



Bone

#### Correct Answer



Epithelial



Neural

#### Question 10

4 / 4 pts

Define polyp. Are they benign or malignant?

Your Answer:

Polyp is a growth that projects from a mucosal surface like the intestine.

They can be benign or malignant.

**A polyp is a growth that projects from a mucosal surface, such as the intestine. A polyp can be benign or malignant**

#### Question 11

0 / 3 pts

How do cancer cells achieve immortality?

Your Answer:

Cancer cells achieve immortality through unregulated and uncontrolled growth. The ability of cancer cells to invade and metastasize, establishing its own blood supply contributes to its achieving immortality.

**Cancer cells keep high levels of telomerase, an enzyme that prevents telomere shortening. This gives the ability of the chromosomes to continue to replicate forever.**

looking for the specific mechanism

### Question 12

3 / 3 pts

What is a tumor suppressor gene? Give one example.

Your Answer:

A tumor suppressor gene is a gene that encodes proteins that inhibits cell growth and signals apoptosis. They reduce cell division and repair DNA mistakes.

An example is TP53

**Tumor suppressor genes are associated with gene underactivity. These genes slow down cell division, repair DNA mistakes, or tell cells when to die. BRCA1 or 2, TP53**

### Question 13

10 / 10 pts

Determine if the tumor is **benign** or **malignant** based on the nomenclature:

1. Papilloma
2. Lipoma
3. Leiomyosarcoma
4. Hemangioma
5. Adenocarcinoma
6. Neuroblastoma
7. Adenoma
8. Melanoma
9. Lymphoma
10. Glioma

Papilloma

benign ▼

Lipoma

benign ▼

Leiomyosarcoma

malignant ▼

Hemangioma

benign ▼