3/16

# 2111E748

Candidate's Seat No :_____

**M.Sc Sem-3 Examination**

**502**

**CB**

**Time : 2-30 Hours]** **November-2024** **[Max. Marks : 70**

**Instructions:**

**All Questions are compulsory**
**Draw neat and labeled diagram wherever necessary**

| | | | |
|---|---|---|---|
| **Q-1** | | **Write the following** | **14** |
| | **(i)** | Explain how tumor develops in presence of a functioning immune system. | 7 |
| | **(ii)** | Explain how apoptosis plays an important role in the induction of tumor cell death. | 7 |
| | | **OR** | |
| | **(i)** | Write a note on voltage gated ion channels. | 7 |
| | **(ii)** | What is lipid glycosylation? Explain how altered glycosylation plays a role in malignancy? | 7 |
| **Q-2** | | **Write the following** | **14** |
| | **(i)** | Write a note on oncofetal antigen and explain any one. | 7 |
| | **(ii)** | What do TATA and TSTA stand for? Explain them in detail. | 7 |
| | | **OR** | |
| | **(i)** | Write a note on viral antigen presentation. | 7 |
| | **(ii)** | Explain the mechanism of antigen presentation by HLA class I antigens. | 7 |
| **Q-3** | | **Write the following** | **14** |
| | **(i)** | Define circulating tumor cells and explain various methods used for the detection of circulating tumor cells. | 7 |
| | **(ii)** | Which standards classify tumor antigens as therapeutic targets? | 7 |
| | | **OR** | |
| | **(i)** | Write a note on molecular *In-vivo* tumor imaging technique used in oncology. | 7 |
| | **(ii)** | What are the advantages of use of rabbit monoclonal antibodies? Why? | 7 |
| **Q-4** | | **Write the following** | **14** |
| | **(i)** | Discuss the potential role of prognostic biomarkers in cancer. | 7 |
| | **(ii)** | Which are the mechanisms by which therapeutic monoclonal antibody cause direct tumor cell killing? Describe in detail. | 7 |
| | | **OR** | |

(P.T.O)

(i) Define tumor markers. Explain significance of CEA, CA-125, CA-15.3 and CA-19.9 in management of cancer patients. 7

(ii) Describe dendritic cell based cancer vaccine. 7

Q-5 **MCQs (Any seven out of twelve).** 14

1 **What is the primary role of immune surveillance in cancer?**

a To promote tumor growth
b To suppress all immune responses
c To recognize and eliminate cancer cells
d To enhance the effects of chemotherapy

2 **Which type of immunity is characterized by the presence of memory cells?**

a Innate immunity
b Passive immunity
c Acquired immunity
d Non-specific immunity

3 **Hormonal tumor markers are primarily used for which purpose in clinical practice?**

a To cure cancer
b To diagnose and monitor treatment response
c To prevent cancer
d To replace surgery

4 **Selective or total HLA class I antigen down regulation is usually caused by functional defects of the _____.**

a antigen processing machinery (APM)
b antigen presenting cells (APC)
c Platelets
d Red blood cells

5 **Imiquimod is used for the treatment of _____.**

a Oral cancer
b Skin cancer
c Bladder cancer
d Ovarian cancer

6 **Tumor cells with reduced MHC I molecule expression are often recognized and targeted by _____.**

a NK cells
b Plasma cells
c B cells
d Helper T cells

7 **Negative predictive value of the marker is defined as_____.**

a True negative/true negative + false positive
b True negative/true negative + false negative
c True negative/false negative + false positive
d True negative/true negative + true positive

8 **The false negative is defined as_____.**

**a** A test result indicates that a person does have a specific disease when the person actually does have the disease

**b** A test result indicates that a person does not have a specific disease when the person actually does not have the disease

**c** A test result indicates that a person does have a specific disease when the person actually does not have the disease or condition

**d** A test result indicates that a person does not have a specific disease when the person actually does have the disease

9 **Specificity of a biomarker is defined as_____.**

**a** True negative

**b** True positive

**c** False negative

**d** False positive

10 **_____is the target of bevacizumab.**

**a** EGF

**b** VEGF

**c** IGF

**d** TGF

11 **CAR-T cells in clinical use contain_____as co-stimulatory domain.**

**a** CD20

**b** CD38

**c** CD28

**d** CD138

12 **Cytotoxic T lymphocyte-associated antigen 4 also known as _____.**

**a** CD16

**b** CD128

**c** CD56

**d** CD152