



Date: 31-10-2018  
Time: 09:00-12:00

Dept. No.

Max. : 100 Marks

**PART – A**

Answer ALL the Questions

**I. Choose the correct answer**

**(5 x 1 = 5 Marks)**

- \_\_\_\_\_ are cancers which originates in the cells of the immune system.  
a) *Carcinoma*                      b) *Lymphoma*                      c) *Meningioma*                      d) *Sarcoma*
- \_\_\_\_\_ is a marker for metastatic breast cancer.  
a) *TP53*                      b) *SATB1*                      c) *Ras*                      d) *Myc*
- Tumour antigens can be recognised by \_\_\_\_\_.  
a) T cells                      b) antibodies                      c) dendritic cells                      d) a & b
- A mutated \_\_\_\_\_ generesults in individuals who are UV light sensitive and have a 1000 fold increased risk in developing skin cancer.  
a) *XP*                      b) *PX*                      c) *VHL*                      d) *VPL*
- \_\_\_\_\_ are considered as the *first tumour marker to be reported*.  
a) *Bence Jones proteins*                      b) alpha fetoprotein                      c) gastrin                      d) prolactin

**II. State whether the following are true or false.**

**(5x1=5 Marks)**

- Tumours of mesenchymal cells usually form solid tumours.
- Partial hepatectomy is recommended when the tumour is small and occupies a small part of the liver.
- Estrogen and progesterone levels in a person have a role in the development of cancer.
- The *RB1* gene makes a protein called pRB which is a tumor promoter.
- Photodynamic therapy uses light of a particular wavelength to kill tumour cells without the use of drugs.

**III. Complete the following**

**(5 x 1= 5 Marks)**

- \_\_\_\_\_are models of cancer where the tissue or cells from a patient's tumour are implanted into an immune deficient mouse.
- \_\_\_\_\_ is the rarest form of skin cancer.
- The immune system can identify and destroy nascent tumor cells in a process termed \_\_\_\_\_ .
- The mutated forms of protooncogenes genes are called \_\_\_\_\_.
- \_\_\_\_\_ are drugs that lower cholesterol and also have anticancer properties.

**IV. Answer the following within 50 words**

**(5 x 1 = 5 Marks)**

16. What is Bloom's syndrome?
17. What is acute myeloid leukemia?
18. Give an example of a metal carcinogen.
19. Name the protein produced by the *NF2* gene and mention its function.
20. What are protease inhibitors?

**PART B**

**Answer the following each within 500 words.**

**(5 x 8 = 40 marks)**

**Draw diagrams wherever necessary**

21. (a) Differentiate benign tumours from malignant tumours.

**OR**

- (b) Write a note on the hallmarks of cancer.

22. (a) Explain any four treatment options for liver cancer

**OR**

- (b) Outline any four diagnostic methods for breast cancer.

23. (a) Write a short note on cancer induced by ionising radiation.

**OR**

- (b) Discuss oxidative stress and cancer.

24. (a) Comment on the role of p53 in cancer biology.

**OR**

- (b) Explain tumour caused by mutation in DNA repair genes with an example.

25. (a) Write a note on radiotherapy as a method of cancer treatment.

**OR**

- (b) Discuss the significance of diet in the prevention of cancer.

**PART - C**

**Answer any TWO of the following, each within 1500 words.**

**(2 x 20 = 40 Marks)**

**Draw diagrams wherever necessary.**

26. Write an essay on cell cycle regulation.
27. Describe the structure and explain the function of G protein coupled receptors.
28. Explain ribozymes and RNAi as strategies of gene silencing.
29. Discuss the importance of tumour markers in cancer diagnosis.

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