

PART B (10 x 2 = 20 Marks)
(Answer not more than 40 words)

11. What are Benign and Malignant tumors?
12. What is the significance of TGF?
13. Distinguish between oncogenes and tumor suppressor genes.
14. List the role of CDKs in the regulation of cell cycle
15. Outline the criteria set by EPA's 2005 to categorize chemicals carcinogens as risk.
16. Name any two compounds of naturally occurring and inorganic chemical carcinogens.
17. What is the three step theory of invasion?
18. What is a mammogram?
19. List the symptoms or local effects that are commonly associated with cancer?
20. Name few tumor markers that are useful in determining the presence of cancer.

PART C (5 x 14 = 70 Marks)
(Answer not more than 400 words)

Q.No. 21 is Compulsory

21. (i) What are the different categories of immunotherapy? (4)
(ii) How are the monoclonal antibodies involved in cancer therapy? (10)
22. (a) Illustrate with a neat sketch on the mechanism of oncogene activation. (OR)
(b) Explain in detail the intrinsic and extrinsic pathways of apoptosis.
23. (a) (i) What are the significance of cell cycle check points? (4)
(ii) Explain the various checkpoints of DNA damage with a neat sketch. (10)
(OR)
(b) Explain the role of p53 as a tumor suppressor protein.
24. (a) Discuss in detail the life cycle of retrovirus (RSV) and its role in cancer cells formation. (OR)
(b) Illustrate on the mechanism of radiation carcinogenesis with a neat sketch.
25. (a) Explain the risk Factors of Breast Cancer and management of the high risk patients. (OR)
(b) (i) Elaborate on the major routes of metastatic spread of cancer cells? (7)
(ii) Demonstrate the sequential steps involved in metastatic process (7)
