

Register Number:.....

B.TECH., DEGREE EXAMINATIONS: APRIL/MAY 2014

(Regulation 2009)

Sixth Semester

BIOTECHNOLOGY

BTY209: Cancer Biology

Time: Three Hours

Maximum Marks: 100

Answer ALL Questions:-

PART A (10x1=10 Marks)

1. Which one of the following belongs to cancer cell lines?
a) BHK b) Vero c) HL-8 d) HeLa cells
2. Cancer is caused by
a) Uncontrolled mitosis b) Uncontrolled meiosis
c) Rupturing cells d) Loss of immunity of the cells
3. Which one of the following is an example for indirect acting carcinogen?
a) EMS b) MMS c) Benzo pyrene d) KMS
4. Reason of lung cancer is
a) Coal mining b) Cement factory' c) Calcium fluoride d) Bauxite mining
5. GTPase activating protein (GAP) is present in _____
a) Src b) Ras c) Fos d) Myc
6. Which one of the following cancers does not form a solid neoplasm?
a) Leukemia b) Lymphoma c) Lipoma d) Sarcoma
7. _____ involved in the process of metastatic cascade
a) Peroxidase b) Matrix metallo protease c) Cdc 25 d) Wee1 protein
8. Which of the following statement is not true?
a) Benign tumors are rarely life threatening
b) Benign tumors can be removed and they do not usually grow back
c) Benign tumors are generally less serious

d) Benign tumors can invade & damage nearby tissues and organs

9. The following chemotherapeutic agent is involved in the intercalation of DNA _____

- a) Vinblastine b) EMS c) Doxorubicin d) Colchicine

10. Which one of the following therapy will involve only the removal of cancerous cells and not the normal cells?

- a) Immunotherapy b) Surgery c) Aromatherapy d) Chemotherapy

PART B (10 x 2 = 20 Marks)

11. Define tumor suppressor gene.
12. What is a cell cycle?
13. List out the possible direct acting chemical carcinogens.
14. What is a carcinogen?
15. Define an oncogene.
16. Outline the significance of telomerase.
17. What is leukemia?
18. What do you mean by malignant cancer?
19. What is external radiation therapy?
20. Define a tumor marker?

PART C (5 x 14 = 70 Marks)

21. a) Give an overview of checkpoint controls in the cell cycle. Explain in detail.
(OR)
b) Describe in detail the role of tumor suppressor genes.
22. a) Give a detail account on the mechanism of action of an indirect acting carcinogen with a suitable example.
(OR)
b) Explain ionizing radiation in detail.
23. a) Describe in brief the mechanism of action of EGF with a neat diagram.
(OR)

b) Explain in detail the lifecycle of RSV with a neat labelled sketch and add a note on its role in cancer formation.

24. a) What are the tumor host interactions during metastatic cascade?

(OR)

b) Discuss in brief the etiology, symptoms, diagnosis and treatment of lung and breast cancer.

25. a) What are tumor markers? Explain in detail.

(OR)

b) Write in detail about chemotherapy in cancer.
