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**End Semester Examination – Nov/Dec– 2018**

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| **Code :** | **09BT235/12BT243/BT216** | **Duration :** | **3hrs** |
| **Sub. Name :** | **CANCER BIOLOGY** | **Max. marks :** | **100** |

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| **Q. No.** | **Questions** | **Marks** |
| **PART-A(10X1=10 MARKS)** | | |
| 1. | Mention any one tumor suppressor. | 1 |
| 2. | Give any one cell cycle regulatory protein. | 1 |
| 3. | Mention the any one theory of carcinogenesis. | 1 |
| 4. | The cancer causing agents are called as\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. | 1 |
| 5. | Which virus is the major cause of human uterine cervical cancer? | 1 |
| 6. | Which is the growth factor that causes angiogenesis in cancer? | 1 |
| 7. | \_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the spread of cancer cells from one organ to another via blood. | 1 |
| 8. | Oncogenes are the mutated or altered forms of normal\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. | 1 |
| 9. | What is meant by biopsy? | 1 |
| 10. | Name any one chemotherapeutic agent used to treat cancers. | 1 |

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| **PART B(5 X 3= 15 MARKS)** | | |
| 11. | Comment on tumour markers with example. | 3 |
| 12. | List the carcinogens and give one example for each. | 3 |
| 13. | Write a note on the role of Telomerase in cancer cells. | 3 |
| 14. | Illustrate the process of angiogenesis. | 3 |
| 15. | Give an account on the molecular therapy for cancer. | 3 |

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| **PART C(5 X 15= 75 MARKS)** | | | |
| 16. | a. | Draw the cell cycle and indicate the checkpoints and modulations in cancer. | 5 |
| b. | Discuss about the different classes and types of cancers. | 10 |
| (OR) | | | |
| 17. | a. | Give a detailed account on the cancer detection methods and molecular tools used. | 12 |
| b. | Comment on early diagnosis. | 3 |
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| 18. | a. | Explain the multistage theory of carcinogenesis in detail with diagram. | 10 |
| b. | Write the mechanism of chemical carcinogenesis with few examples. | 5 |
| (OR) | | | |
| 19. | a. | What are physical carcinogens? Detail their mechanism of action in carcinogenesis. | 10 |
| b. | Comment on role of radiation in carcinogenesis. | 5 |
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| 20. | a. | Describe the role of Ras-MAP Kinase pathway in cancer with illustration. | 10 |
| b. | Explain how the Human Papilloma Virus act on the tumor suppressors. | 5 |
| (OR) | | | |
| 21. | a. | Comment on oncogenes with examples. | 5 |
| b. | Relate the role of growth factors in transformation to for cancer with examples. | 10 |
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| 22. | a. | Explain the three step theory of cancer invasion and give its clinical significance. | 10 |
| b. | Give details on the different proteinases involved in invasion and metastasis. | 5 |
| (OR) | | | |
| 23. | a. | Illustrate the metastatic cascade with a neat diagram. | 10 |
| b. | Comment on the factors involved in the process of angiogenesis. | 5 |
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| 24. | a. | Give an overview on the different forms of therapy used for cancer. | 12 |
| b. | Comment on the current status of gene therapy for cancer. | 3 |
| (OR) | | | |
| 25. | a. | Elaborate the chemotherapy with examples and their challenges. | 10 |
| b. | Briefly explain the method of radiation therapy and its mechanism. | 5 |