Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – Nov/Dec – 2016**

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|  |  | **Semester :** | **2016-17 ODD** |
| **Code :** | **14BT2044** | **Duration :** | **3hrs** |
| **Sub. Name :** | **CANCER BIOLOGY** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | How does the Retinoblastoma protein control the cell cycle? Illustrate it. | CO-1 | 5 |
| b. | What are the ultimate reasons of death occurring in cancer patients? | CO-1 | 5 |
| c. | What are the characteristics of a cancer?Describe the cancer grading system with an example. | CO-1 | 10 |
| (OR) | | | | |
| 2. | a. | Give a detailed account on the theories of carcinogenesis with illustrations. | CO-1 | 15 |
| b. | Is there any natural and biological carcinogens? Justify it with examples. | CO-1 | 5 |
|  |  |  |  |  |
| 3. | a. | List out the different classes of cancers. | CO-1 | 5 |
|  | b. | Discuss about any three common cancer types with all relevant informations | CO-1 | 15 |
| (OR) | | | | |
| 4. | a. | Which are the tumor suppressors associated with HPV oncogenesis? How? | CO-1 | 5 |
|  | b. | What are oncogenes? Discuss about their role in carcinogenesis with examples. | CO-1 | 15 |
|  |  |  |  |  |
| 5. | a. | What are TumourSecific Antigens? Give examples. | CO-1 | 5 |
|  | b. | What does happen to cell adhesion molecules in cancer? Discuss it with 3 examples. | CO-1 | 15 |
| (OR) | | | | |
| 6. | a. | What is meant by metastatic cascade? Explain it with neat illustartions. | CO-1 | 15 |
|  | b. | What are the pre-metastatic events taking place? How does it happen? | CO-1 | 5 |
|  |  |  |  |  |
| 7. | a. | What is the role of proteases in cancer? Discuss about any one in detail. | CO-1 | 5 |
|  | b. | Give a detailed account on the role of different growth factor families in cancer. | CO-1 | 15 |
| (OR) | | | | |
| 8. | a. | What are the methods available for cancer detection? Detail them. | CO-3 | 15 |
|  | b. | Give a note on screening methods used for early detection of cancers. | CO-3 | 5 |
|  |  |  |  |  |
|  | | **Compulsory:** |  |  |
| 9. | a. | List out any 5 chemotherapeutic agents.Describe the methods of radiation therapy used for cancer with its disadvantages. | CO-2 | 15 |
|  | b. | What are the present challenges of gene therapy used for cancer treatment? | CO-3 | 5 |

ALL THE BEST