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



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

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

**Supplementary Examination – June – 2017**

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| **Code :** | **14BT2012** | **Duration :** | **3hrs** |
| **Sub. Name :** | **GENETIC ENGINEERING AND BIOETHICS** | **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. | What is gene cloning? write the importance of gene cloning. | CO1 | 10 |
| b. | Describe in detail about the DNA manipulative enzymes. | CO1 | 10 |
| (OR) | | | | |
| 2. |  | Explain about the Linkers and Adapters used for the attachment of sticky ends and blunt ended molecules. | CO1 | 20 |
| 3. | a. | What is a vector? Write the characteristics of plasmid vector. | CO1 | 10 |
|  | b. | Enumerate the details of PUC 18 vector with respective diagrams. | CO2 | 10 |
| (OR) | | | | |
| 4. |  | Discuss the importance of PBR 322 vector and write the construction of the PBR 322 vector. | CO2 | 20 |
| 5. |  | Describe the importance of PCR in cloning and write the uses of chemicals and steps involved in PCR. | CO2 | 20 |
| (OR) | | | | |
| 6. | a.. | Describe about Colony Hybridization and explain the steps involved. | CO2 | 10 |
|  | b. | What is Southern Hybridization? Discuss in detail about the steps involved. | CO2 | 10 |
| 7. |  | Enumerate about Traansgenic plants and describe in detail with suitable examples. | CO3 | 20 |
| (OR) | | | | |
| 8. |  | Write the process involved in the development of Transgenic animals using stem cells. Discuss about transgenic cows and its importance. | CO3 | 20 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Discuss about Gene therapy with necessary illustrations. | CO3 | 10 |
|  | b. | Explain about the ethical issues in rDNA technology. | CO3 | 10 |

ALL THE BEST