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 :** | **14BT3006** | **Duration :** | **3hrs** |
| **Sub. Name :** | **ADVANCES IN RECOMBINANT DNA TECHNOLOGY** | **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 restriction and modification system | | CO 1 | 5 |
| b. | Explain the types of restriction enzymes mention their properties & uses | | CO 1 | 15 |
| (OR) | | | | | |
| 2. | a. | Alkaline phospahatases | | CO 1 | 5 |
| b. | Terminal transferases | | CO 1 | 5 |
| c. | Reverse transcriptase | | CO 1 | 5 |
| d. | Linkers & adaptors | | CO 1 | 5 |
| 3. |  | Write short notes on the following: | |  |  |
|  | a. | Properties of an ideal plasmid vector | | CO 2 | 10 |
|  | b. | What are a Bacterial Artificial Chromosome (BAC) and Yeast Artificial Chromosome (YAC)? add note on their significance. | | CO 2 | 10 |
| (OR) | | | | | |
| 4. | a. | What are cosmids and Phagemids explain their role in rDNA technology. | | CO 2 | 10 |
|  | b. | Expalin the components of Ti plasmid and their uses in genetic engineering. | | CO 2 | 10 |
| 5. |  | Explain the following | |  |  |
|  | a. | Electroporation | | CO 2 | 5 |
|  | b. | Microinjection | | CO 2 | 5 |
|  | c. | Particle Bombardment | | CO 2 | 5 |
|  | d. | Sonoporation | | CO 2 | 5 |
| (OR) | | | | | |
| 6. | a. | Retroviral mediated gene transfer | | CO 2 | 5 |
|  | b. | Embryonic stem cell technology | | CO 2 | 5 |
|  | c. | Nuclear transfer | | CO 2 | 5 |
|  | d. | Sperm as vector | | CO 2 | 5 |
| 7. |  | What is a Human genome project? mention the systematic steps in Human genome project add a note on its uses/applications | | CO 3 | 20 |
| (OR) | | | | | |
| 8. |  | Write a detailed note on the different forensic applications of r DNA technology | CO 3 | | 20 |
|  | | **Compulsory:** |  | |  |
| 9. |  | What is gene therapy? Write the different types of gene therapy add note on its advantages and disadvantages | CO 3 | | 20 |