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**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

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

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

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

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|  |  | **Semester :** | **2016-17 ODD** |
| **Code :** | **12BT239** | **Duration :** | **3 hrs** |
| **Sub. Name :** | **NANOBIOTECHNOLOGY** | **Max. marks :** | **100** |

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| **Q. No.** | **Questions** | **Marks** |
| **PART-A(10X1=10 MARKS)** | | |
| 1. | Who is the father of Nanotechnology? | (1) |
| 2. | Give an example of a biological synthesized nanoparticle. | (1) |
| 3. | Give: IBM logo expansion. | (1) |
| 4. | What is the precursor used for synthesis of Ferrous nanoparticles? | (1) |
| 5. | Define scaffolds. | (1) |
| 6. | Define nanofluids. | (1) |
| 7. | The mRNA is synthesized by \_\_\_\_\_\_\_\_\_\_\_ process. | (1) |
| 8. | Name a nanomedicine used to treat cancer. | (1) |
| 9. | What is a Zwitterion? | (1) |
| 10. | Engines of creation written by \_\_\_\_\_\_\_\_\_\_\_\_\_\_ | (1) |

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| **PART B(5 X 3= 15 MARKS)** | | |
| 11 | Define Nanotechnology & its length scale. | (3) |
| 12 | Surface plasmon resonance quantifies and qualifies. | (3) |
| 13 | Write short notes on SEM. | (3) |
| 14 | Write short notes on the neuron. | (3) |
| 15 | Brief about economic impacts of nanotechnology. | (3) |

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| **PART C(5 X 15= 75 MARKS)** | | | |
| 16. |  | Explain in detail about history of nanotechnology. | (15) |
| (OR) | | | |
| 17. |  | Discuss about silicon based technology. | (15) |
| 18. |  | What is GNP? And write short notes on its synthesis, optical properties and characteristics. | (15) |
| (OR) | | | |
| 19. |  | What are the characterization techniques available for nanoparticles? Explain about SEM & TEM. | (15) |
| 20. |  | Explain in detail about application of nanoparticles in nanomedicine. | (15) |
| (OR) | | | |
| 21. |  | Explain in detail about DNA sensors. | (15) |
| 22. |  | Write short notes on |  |
|  | a. | Nanomedicine | (5) |
|  | b. | Nanosurgical devices | (5) |
|  | c. | Applications of nanoparticles | (5) |
| (OR) | | | |
| 23. |  | Explain in detail about high throughput DNA sequencing with nanocarbon tubles. | (15) |
| 24. |  | Discuss about the future socio-economic challenges. | (15) |
| (OR) | | | |
| 25. |  | Give the detailed ethical issues in nanotechnology with special reference to nanomedicine. | (15) |

ALL THE BEST