****

**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**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  | **Semester :** | **2016-17 ODD** |
| **Code :** | **10NT204** | **Duration :** | **3 hrs** |
| **Sub. Name :** | **BIOCHEMISTRY** | **Max. marks :** | **100** |

|  |  |  |
| --- | --- | --- |
| **Q. No.** | **Questions** | **Marks** |
| **PART-A(10X1=10 MARKS)** | | |
| 1. | Name any one aromatic amino acid. | (1) |
| 2. | Why nucleic acid is acidic in nature? | (1) |
| 3. | Which is a non-reducing sugar among the common disaccharides? | (1) |
| 4. | Give one example for unsaturated fatty acid. | (1) |
| 5. | Name one theory for enzyme action. | (1) |
| 6. | Write one example for oxygen binding and transport protein. | (1) |
| 7. | What is formed at the end of respiratory chain? | (1) |
| 8. | \_\_\_\_\_\_\_\_\_\_\_ is synthesized in oxidative phosphorylation. | (1) |
| 9. | Mention the organelle where the TCA cycle takes place in a cell. | (1) |
| 10. | What is detoxified through urea cycle? | (1) |

|  |  |  |
| --- | --- | --- |
| **PART B(5 X 3= 15 MARKS)** | | |
| 11. | Define peptide bond. How is it formed? | (3) |
| 12. | Give the key functions of proteoglycan. | (3) |
| 13. | What is active site of an enzyme? | (3) |
| 14. | Define transamination with example. | (3) |
| 15. | Write the significance of HMP-shunt pathway. | (3) |

|  |  |  |  |
| --- | --- | --- | --- |
| **PART C(5 X 15= 75 MARKS)** | | | |
| 16. | a. | What are the basic components of nucleotides? | (5) |
| b. | Describe the Watson and Crick model of DNA structure with diagram. | (10) |
| (OR) | | | |
| 17. | a. | Discuss about the proteins structures with diagram. | (10) |
| b. | Comment on Ramachandran plot. | (5) |
| 18. | a. | Classify the carbohydrates and monosaccharide with an example for each. | (10) |
| b. | Comment on the furanose and pyranose structure with an example. | (5) |
| (OR) | | | |
| 19. | a. | Why the phospholipids are amphiphilic in nature? Justify it. | (5) |
| b. | What are the special functions of phospholipids? Explain it with examples. | (10) |
| 20. | a. | What is the principle of enzyme catalysis? Give the diagram. | (5) |
| b. | Detail the different types of catalysis with suitable examples. | (10) |
| (OR) | | | |
| 21. | a. | What is the relation between substrate concentration and rate of a reaction? | (3) |
| b. | Derive the Michaelis –Menten Equation of an enzyme reaction. | (12) |
| 22. |  | Explain how the hormones and signal transduction regulate the metabolism of carbohydrates to maintain blood glucose level. | (15) |
| (OR) | | | |
| 23. |  | How the TCA cycle and Urea cycle is are interconnected? Describe the Kreb’s bicycle. | (15) |
| 24. | a. | Explain the process of electron transport chain or oxidation. | (8) |
| b. | Define oxidative phosphorylation. | (2) |
| c. | Describe the process of oxidative phosphorylation. | (5) |
| (OR) | | | |
| 25. | a. | Describe the TCA cycle with diagram. | (8) |
| b. | Why the TCA cycle has amphibolic role in metabolism? | (2) |
| c. | Give the energy yield of TCA cycle. | (5) |

ALL THE BEST