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

**Karunya University**

**(Karunya Institute of Technology and Sciences)**

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

**End Semester Examination – April/May 2010**

**Subject Title: FUNDAMENTALS OF BIOLOGICAL SYSTEMS Time: 3 hours**

**Subject Code: 09BI201 Maximum Marks: 100**

#### **Answer ALL questions**

**PART – A (10 x 1 = 10 MARKS)**

1. Name the organelles that are part of the endomembrane system.

2. What is cell cycle?

3. Mention the role of hormones.

4. What is a second messenger?

5. Mention the different methods of staining of microbes.

6. Write the principle of electron microscopy.

7. What are micronutrients?

8. Name the types of culture media.

9. Define community.

10. Name the factors that influence biodiversity.

**PART – B (5 x 3 = 15 MARKS)**

11. Define Diffusion? What factors affect rate of diffusion?

12. What are neurotransmitters?

13. Write the taxonomic classification of organisms.

14. Explain briefly the TCA cycle.

15. Write the values of biodiversity.

**PART – C (5 x 15 = 75 MARKS)**

16. Describe and contrast three methods of endocytosis with neat sketches.

(OR)

17. Discuss in detail about various phases of mitosis with neat sketches.

18. Explain in detail about G – protein receptor with example.

(OR)

19. Explain the role of cAMP and Inositol Phosphate as second messengers.

20. Explain briefly about any two types of light microscopy.

(OR)

21. Write short notes on:

a. Microbial Biosensors b. Nomenclature of microbes.

22. Briefly explain the phases of growth curve.

(OR)

23. Discuss in detail about aerobic bioenergetics.

24. Discuss briefly about uses of biodiversity and community biodiversity conservation.

(OR)

25. Write short notes on:

a. Access of genetic resources. b. Status of Biodiversity.