Reg.No.									

INTERNATIONAL CENTRE FOR APPLIED SCIENCES

(Manipal University)

II SEMESTER B.S. DEGREE EXAMINATION – APRIL / MAY 2017

SUBJECT: BIOLOGY (BE 121)

(BRANCH: BIOTECH, BIOMED & CHEMICAL)

Friday, 28 April 2017

Time: 3 Hours **Max. Marks: 100**

- ✓ **Answer ANY FIVE full Questions.**
- ✓ **Missing data, if any, may be suitably assumed**

1A. What are the characteristics of eukaryotic cell?
1B. Distinguish between aneuploidy and polyploidy.
1C. Explain the structure and functions of mRNA and tRNA. **(3+5+12)**

2A. Write any three functions of centrioles.
2B. Explain the semiconservative in nature of DNA.
2C. How the codon is expressed? Write the characteristics of triplet codon. **(3+5+12)**

3A. Give an account of Y - linked inhertitance.
3B. Explain back cross and test cross signifiance in breeding.
3C. Explain Mendel's factors and its movement across generation. **(3+5+12)**

4A. What are the types of plastids? Describe any one.
4B. Explain the different types of RNA.
4C. Explain colour blindness and albinism in man. **(3+5+12)**

5A. Explain the structure of ribosome.
5B. What are the steps involved in mitosis.
5C. Give details of reactions of aerobic glycolytic pathway. **(3+5+12)**

6A. Describe the relevance of Punnett square in genetics.
6B. What is dominance? Explain with suitable example.
6C. How to manipulate the DNA with molecular tools? Explain. **(3+5+12)**

7A. Explain the cell theory.
7B. Explain the structure of nucleotides.
7C. How mutations affects cellular integrity? Explain with suitable examples. **(3+5+12)**

8A. Explain the chemical composition of cell membrane.
8B. Describe the structure of telomere and centromere.
8C. Explain the applications of modern biotechnology. **(3+5+12)**