# PRESIDENCY UNIVERSITY
# KOLKATA
## Admission Test- 2011
## Honours in Botany

**Questions will be of 2 types: (A) Multiple choice (1 x 60) and (B) Short answer type (2 x 20).**

**Duration: 2 Hours; Full Marks: 100**

**Syllabus: Principally based on the syllabus of Life Sciences as per WBCHSE at Class XI-XII standard.**

## Model Questions

**A. Choose the correct answer and put ( ✓ ) mark-**

1. Glycolysis operates in
    a. mitochondrion
    b. ribosome
    c. chloroplast
    d. cytosol

2. Leghemoglobin is a type of
    a. carbohydrate
    b. lipid
    c. protein
    d. vitamin
3. *Varicella zoster* virus is responsible for
    a. chickenpox
    b. smallpox
    c. typhoid
    d. measles

4. Teichoic acid is present in the cell-wall of
    a. Gram-positive bacteria
    b. algae
    c. Gram-negative bacteria
    d. fungi
5. Which of the following statements about meiosis is correct?
    a. Two daughter cells are formed in meiosis.
    b. The chromosomes replicate twice in meiosis.
    c. The daughter cells formed in meiosis are genetically identical.
    d. The daughter cells formed in meiosis have the same chromosome number.

6. Photolysis of water is associated with the plant metabolism related to
    a. biological nitrogen fixation
    b. DNA replication
    c. respiration
    d. photosynthesis
7. Apoenzyme is made up of
    a. protein
    b. gliadin
    c. non- protein organic molecule
    d. inulin

8. The deoxyribose sugar which is present in the structure of DNA lacks an oxygen atom at
    a. C-2 position of this molecule
    b. C-3 position of this molecule
    c. C-4 position of this molecule
    d. C-5 position of this molecule

9. During meiosis, the prophase II cells represent
    a. 4C value
    b. 3 C value
    c. 2C value
    d. 1C value

10. Middle lamella of the plant cell wall is composed of
    a. calcium oxalate
    b. calcium pectate
    c. phytic acid
    d. calcium malate

**B. Answer the following questions in brief: Each question carries 2 marks**

1. How bacterial transformation differs from transduction.
2. Indicate four functions of endoplasmic reticulum.
3. How the term totipotency and pluripotency differs.
4. What is the role of DNA polymerase in DNA replication?
5. Distinguish between Metaphase-I and Metaphase-II.
6. What role does Okazaki fragment play during replication of DNA?
7. Do you think plants can produce seeds asexually? Name and define the process
8. Why bacterial photosynthesis is called anoxygenic?
9. Write the scientific name of one unicellular alga and one unicellular fungus.
10. State the major component of the cell walls of plant, fungi and bacteria.