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**B.Sc.(BT) (2013 to 2017) (Sem.-1)**  
**INTRODUCTION & FUNDAMENTALS OF BIOTECHNOLOGY**  
**Subject Code : BSBT-105**  
**Paper ID : [F0238]**

**Max. Marks : 60**

1. **SECTION-A is COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students has to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students has to attempt any **TWO** questions.

**Q1. Answer briefly :**

- What are mesophilic organism?
- Which organism is used to study eukaryotic system?
- What is a white biotechnology?
- By which microscopy you can visualise :
  - Cell membrane
  - Cell morphology
- Name the dyes used for visualising bacteria under light microscope.
- Give the name(s) of medium used for culturing bacteria.
- What is a cryoprotectant?
- What is Beer's Lambert Law?
- What is the partition coefficient?
- What is lyophilization?

### SECTION-B

- Q2. What are the different methods for isolating a pure culture?
- Q3. What is principle behind differential centrifugation? Name few biomolecule which can be separated by this technique.
- Q4. What is the principle of ion exchange chromatography? Give an example.
- Q5. What is model organism? Give its significance.
- Q6. What are the laboratory requirements for fungal growth?

### SECTION-C

- Q7. What is spectroscopy? Discuss the principle and instrumentation of visible spectroscopy
- Q8. Discuss about different branches of biotechnology and their future scope.
- Q9. Explain the principle and instrumentation of SDS PAGE gel electrophoresis.