

Roll No.

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Total No. of Pages : 02

Total No. of Questions : 09

B.Sc.(BT) (2013 to 2017) (Sem.–1)

INTRODUCTION & FUNDAMENTALS OF BIOTECHNOLOGY

Subject Code : BSBT-105

Paper ID : [F0238]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

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.

SECTION-A

Q1. Answer briefly :

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