MS – 330

VI Semester B.Sc. Examination, May 2016
(2013-14 and Onwards) (Fresh)
BOTANY (Paper – VII)
Molecular Biology, Genetic Engineering, Biotechnology and Plant Physiology – I

Time : 3 Hours Max. Marks : 70

Instructions : *1) Answer **all** questions.*
*2) **Draw** diagrams **wherever** necessary.*

PART – A

A. Answer **any seven** of the following in **two** or **three** sentences : **(7×2=14)**

1) What is imbibition ? What is its significance ?
2) Define osmotic potential. What is its significance ?
3) What is meant by Vein loading and unloading ?
4) Name the nucleotides present in RNA.
5) What is Charyaff's rule ?
6) Mention any two uses of genetic engineering in Agriculture.
7) Mention any five enzymes involved in replication.
8) What are hydathodes ? Where are they present ?
9) What is active absorption of water ?

PART – B

B. Describe/Explain **any six** of the following : **(6×4=24)**

10) Differentiate between DNA and RNA.
11) Give a brief account of bioinformatics and its uses.
12) Plasmids.

P.T.O.

13) Give the properties of genetic code.

14) Any four factors which influence the transpiration.

15) What is DNA library ? Screening of genomic libraries.

16) Role of microbes in industries.

17) Explain protoplasmic streaming hypothesis of translocation of solutes.

PART – C

C. Answer **any four** of the following : **(4×8=32)**

18) Explain the different stages involved in penicillin production.

19) Lac-operon concept.

20) Explain the mechanism of opening and closing of stomata.

21) Explain the role of N, K, Fe and Mg in plant growth and development.

22) Give the steps involved in the production of ethyl alcohol (Ethanol).

23) Explain the physical force theories of ascent of sap.
