



UN – 186

V Semester B.Sc. Examination, November/December 2015

(Semester Scheme) (F + R)

MICROBIOLOGY – V

Agriculture and Environmental Microbiology

Time : 3 Hours

Max. Marks : 70 (F)/60 (R)

- Instructions :**
- 1) Candidates of 2013-14 onwards should answer **all** the questions.
 - 2) Candidates prior to 2013-14 should answer **A, B, C** Sections only.
 - 3) **Draw diagram wherever necessary.**
 - 4) **70** marks for **fresh** students of 2013-14 and onwards.
 - 5) **60** marks for **repeater** students prior to 2013-14.

SECTION – A

I. Write brief notes on the following :

(5×2=10)

- 1) Coliforms
- 2) Occupational hazards
- 3) BGA
- 4) β -Galactosidase
- 5) Soil Actinomycetes.

SECTION – B

II. Answer **any four** of the following :

(4×5=20)

- 6) Give an account on natural waters and distribution of organisms in aquatic environment.
- 7) What are endotoxins ? Add a note on management of air borne microbes.
- 8) Explain sulphur cycle.
- 9) Give an account on Rhizosphere.
- 10) Explain sandal spike disease.



SECTION - C

III. Answer any three of the following :

(3×10=30)

- 11) Compare impaction and impingement. Describe the Anderson's sampler.
- 12) Explain :
 - a) Microbes in aquatic environment
 - b) BOD.
- 13) Explain mode of action, factors influencing, genes involved and target pest of Bacillus thuringiensis.
- 14) Explain the biochemistry, genetics and physiology of symbiotic nitrogen fixation.
- 15) Describe the methods, mechanism and significance of bioleaching of copper.

SECTION - D

IV. Answer in **one line** only :

(10×1=10)

- 16) N-index
- 17) Waste water
- 18) Soil pH
- 19) Azolla
- 20) Airborne diseases
- 21) Hydrosphere
- 22) 'O' horizon
- 23) Commensalism
- 24) Loamy soil
- 25) Petriplate exposure.