

Seat No. : _____

AF-105

April-2016

B.Sc., Sem.-VI

**Microbiology (Elective)
311 – Geomicrobiology**

Time : 3 Hours]

[Max. Marks : 70

- Instructions :** (1) There are **five** questions carrying equal marks.
(2) Attempt **all** questions.
(3) Draw figure wherever necessary.

1. Answer any **two** of the following : **14**
- (a) Discuss geomicrobiology as a branch of microbiology.
 - (b) Types of Microbial flora of earth.
 - (c) Lithosphere as a microbial habitat.
 - (d) Microbial flora of Hydrosphere
2. Answer any **two** of the following : **14**
- (a) Non-molecular techniques for geomicrobiology.
 - (b) Molecular techniques for geomicrobiology.
 - (c) Role of microorganisms as catalyst of geochemical processes.
 - (d) Geomicrobial valued physiological groups of primitive microorganisms.
3. Answer any **two** of the following : **14**
- (a) Microbial leaching of copper ore.
 - (b) Biobeneficiation.
 - (c) Acid mine drainage.
 - (d) Laboratory evidence for formation of metal sulphide

4. Answer any **two** of the following : **14**
- (a) Role of microbes in coal formation.
 - (b) Geomicrobiology of methane.
 - (c) Role of microbes in peat formation.
 - (d) Natural fossil fuel.
5. Answer in **one** or **two** lines only. **14**
- (a) What is Geomicrobiology ?
 - (b) Define lithification.
 - (c) Give any two names of methanogenic bacteria.
 - (d) Enlist any two types of bio-leaching techniques.
 - (e) Enlist natural fossil fuel.
 - (f) Name two microorganisms involved in coal desulfurization.
 - (g) What is microbial consortium ?
 - (h) Write full form of AMD.
 - (i) What is hydrosphere ?
 - (j) What is lithosphere ?
 - (k) Give full name of PCR technique to study geomicrobiology.
 - (l) Give full name of t-RFLP technique to study geomicrobiology.
 - (m) Name any two pyrite oxidizing bacteria.
 - (n) What is magma ?
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