

Seat No. : _____

LH-119

April-2014

B.SC. Sem.-VI

Microbiology : Elective-311

Geomicrobiology

Time : 3 Hours]

[Max. Marks : 70

1. Describe any **two** the following : **14**
 - (a) Geomicrobiology as a branch of microbiology.
 - (b) Earth as microbial habitat.
 - (c) The microbial flora of Lithosphere.
 - (d) Hydrosphere as microbial habitat.

2. Write a note on any **two** of the following : **14**
 - (a) Non-molecular methods for geomicrobiology.
 - (b) Molecular methods for geomicrobiology.
 - (c) Physiological groups of prokaryotes in geomicrobiology.
 - (d) Microbes as catalysts of geochemical processes.

3. Explain any **two** of the following : **14**
 - (a) Laboratory evidences for formation of metal sulfide.
 - (b) Bio-oxidation of metal sulfide.
 - (c) Bioleaching of copper ore.
 - (d) Biobeneficiation.

4. Explain any **two** of the following : **14**
 - (a) Geomicrobiology of methane.
 - (b) Natural fossil fuels.
 - (c) Microbial desulphurization of coal.
 - (d) Role of microbes in peat formation.

5. Answer the following in **one** or **two** lines only :

14

- (1) Define Geomicrobiology.
 - (2) What is lithosphere ?
 - (3) What is hydrosphere ?
 - (4) Mention the contribution of Winogradsky.
 - (5) Name any two important prokaryotic microbes related to geomicrobiology.
 - (6) Write full form of 'AMD'.
 - (7) Define biobeneficiation.
 - (8) Name any two types of fossil fuel.
 - (9) Name any two methanogenic bacteria.
 - (10) Name any two organisms involved in peat formation.
 - (11) Name any two pyrite oxidizing bacteria.
 - (12) What is the purpose of microcosm ?
 - (13) What is microbial consortium ?
 - (14) Name any two bacteria involved in bioleaching.
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