

M.Sc.(Microbiology) CBCS Pattern Semester-I  
**PSMBT-104 - Paper-IV : Commercial Microbiology**

P. Pages : 1

Time : Three Hours



**GUG/W/23/11174**

Max. Marks : 80

1. Explain in detail about bacteriological methods of oil recovery. 16

**OR**

Write notes on.

- a) Microbial solubilization of coal. 8

- b) Geomicrobiological methods of petroleum exploration. 8

2. Describe the microbial production of Kojic acid and its use in cosmetics preparations. 16

**OR**

Write notes on.

- a) Evaluating of bacterial samples from Satellites and solar system bodies. 8

- b) ESA STONE experiment. 8

3. Explain in details about production antimicrobial carpet and tiles. 16

**OR**

Write notes on.

- a) Antimicrobial papers. 8

- b) Bacteriostatic Sanitary napkins and towels. 8

4. Describe the methods of Anti-microbial plastic production. 16

**OR**

Write notes on.

- a) Antimicrobial Rubbers. 8

- b) Antiseptic plastics. 8

5. Write short notes on.

- a) Bacteria as an indicators of petroleum biodegradation. 4

- b) Composition of astronauts' microbial flora. 4

- c) Antibiotic paper. 4

- d) Plastic producing microorganisms. 4

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