

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2018
(Third Semester)

Branch – ENVIRONMENTAL SCIENCE

ENVIRONMENTAL MICROBIOLOGY

Time : Three Hours

Maximum : 75 Marks

Answer **ALL** questions
ALL questions carry **EQUAL** marks (5 x 15 = 75)

- 1 a Explain the principle of an electron microscopes. (7)
- b Explain the principle and functioning of phase contrast microscope. (8)
- OR
- c Describe the preparation of isolation and growth media for fungi. (8)
- d Describe the functioning and uses of an autoclave. (7)
- 2 a How do the airborne microorganisms cause infections? Explain. (10)
- b What is FC : FS ratio? What is its use? Describe. (5)
- OR
- c Explain various factors affecting microbial populations in various aquatic environment. (15)
- 3 a Explain the factors affecting microbial activity in soil. (9)
- b Briefly describe natural activities of microbes in ground water. (6)
- OR
- c What is bioleaching? Explain bioleaching operation with one example. (8)
- d Describe microbes in petroleum degradation. (7)
- 4 a Explain microbial processes in removal of metals from aqueous effluents. (8)
- b Explain degradation of chlorinated hydrocarbons by microorganisms. (7)
- OR
- c Explain the microbial treatment of oil pollution. (8)
- d Explain the kinetics of biodegradation. (7)
- 5 a What is bioremediation? What are its advantages and disadvantages? (6)
- b Explain bioremediation mechanisms. (9)
- OR
- c Explain role of plasmids in bioremediation. (8)
- d Explain the methods of screening of microbial strains. (7)

Z-Z-Z

END