

**2017**

**M.Sc.**

**3rd Semester Examination**

**MICROBIOLOGY**

**PAPER—MCB-304**

*Full Marks : 40*

*Time : 2 Hours*

*The figures in the right-hand margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

*Illustrate the answers wherever necessary.*

1. Answer any ten questions from the following : 10×2
- (a) Define sludge.
  - (b) What is municipal waste water ?
  - (c) Write the full form of BOD and MPN.
  - (d) What do you mean by bioventing ?
  - (e) What is zoonotic diseases ? Cite one example.

*(Turn Over)*

- (f) Why prolonged incubation period is necessary development of AIDS symptoms ?
- (g) What is bioaerosol ?
- (h) Name two organisations responsible to cause leaching of metals.
- (i) Why humid air contains less microbes than dry air ?
- (j) What do you mean by human transmitted diseases ?
- (k) What is BT-toxin ?
- (l) Define bioremediation.
- (m) What is ligno-cellulosic waste ?
- (n) What are the advantages of WV ray mediated disinfection of water ?
- (o) What is bio-composting ?

2. Answer any *two* questions : 2×10

- (a) Write in brief about secondary treatment of municipal waste water. What is entropication ? Write the process of bioremediation of TNT. 4+2+4
- (b) Write the process of preparation of vermicompost schematically. What are the advantages of using

vermicompost over normal compost. Write about the different route of entry of pathogen into human. State the process of biomagnification.

- (c) Define Biofuel and its importance ? What is biodiesel ? Write the applications of biodiesel. What is bioaugmentation. 2+3+3+2
- (d) Write short notes on (any four) 4×2.5
- (i) *E.Coli* as indicator of water pollution ;
  - (ii) Importance of biodegradation of xenobiotics ;
  - (iii) Biomining ;
  - (iv) Opportunistic pathogen ;
  - (v) Biosafely issues of genetic modification of microbes.
  - (vi) Nitrogenous Biofertilizer.
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