PG/IIIS/MCB-304/18(CBCS)

M.Sc. 3rd Semester Examination, 2018

MICROBIOLOGY

PAPER —MCB-304

Full Marks : 40

Time : 2 hours

Answer **all** questions

The figures in the right-hand margin indicate marks

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

Illustrate the answers wherever necessary

1. Answer any *two* questions from the following : 10 × 2

   (*i*) Define BOD ?

   (*ii*) What is Anammox ?

   (*iii*) How water can be disinfected ?

   (*iv*) What is presumptive test ?

(*v*) Define biodegradation ?

(*vi*) Write the principle of degradation of TNT.

(*vii*) What do you mean be nitrogenous biofertilizer ? Cite one example.

(*viii*) What is biodiesel ?

(*ix*) What is virulence ?

(*x*) What do you mean be opportunistic pathogen ? Cite one example.

(*xi*) What are the different portals of entry of pathogens in human body ?

(*xii*) How zoonetic diseases can be transmitted ?

(*xiii*) What do you mean by droplet transmission ?

(*xiv*) Write the differences between biosorption and bioaccumulation.

(*xv*) Write two disadvantages of microbial biomining.

2. Answer any *two* questions from the following : 10×2

(*i*) Give a critical comparison between biofertilizer, compost and vermicompost. What Xenobiotics ? How biomagnification takes place ? $5 + 2 + 3$

(*ii*) Diagrammatically describe the process of bioscrubbers used for air filtration. What kind of air pollutants are most effectively filtered by bioscrubbers ? How biodiesel can be obtained from lipid ? $5 + 2 + 3$

(*iii*) State the processes involves in the secondary treatment of municipal waste water ? What is activated sludge ? State the consequences of eutrophication ? $5 + 2 + 3$

(*iv*) Write short notes (any *four*) : $2\frac{1}{2} \times 4$

(*a*) Bacterial adhersin

(*b*) Hemolysis and its importance of pathogenesis

(*c*) Bacterial toxins

(*d*) Nosocomial infection

(*e*) Syphilis

(*f*) Bacterial vs. viral sexually transmitted infection.
