

**M.Sc. 3rd Semester Examination, 2018**

**MICROBIOLOGY**

**PAPER — MCB-302**

*Full Marks : 40*

*Time : 2 hours*

*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*

**GROUP — A**

**[ Marks : 20 ]**

**Answer any two questions**

1. What is biopesticide? Write a note on insecticidal crystal proteins. Briefly mention the mode of action of the insecticidal crystal proteins. Why are ICPS Specific? 2 + 3 + 4 + 1

*( Turn Over )*

2. What is biofertilizer ? With the help of flow chart briefly mention the production of *Rhizobium* inoculant. Mention the advantages of Liquid Bio-fertilizer over carrier based biofertilizer. What is pelleting ? Why and how it is performed ?  
1 + 3 + 3 + 3
3. Write notes on any *four* of the following :  $2\frac{1}{2} \times 4$
- (i) PGPR
  - (ii) Anaerobic method of composting
  - (iii) Micropropagation
  - (iv) Vermicomposting materials
  - (v)  $N_2$ -Cycling
  - (vi) Protoplast technology.

GROUP – B

[ Marks : 20 ]

Answer any **two** questions

4. (a) Define Vaccine.
- (b) 'Genetically modified preparation is superior

than live attenuated organism' – Justified the statement.

(c) How anti-idiotypic vaccine is effective against cancerous cells ?

(d) State the advantages of DNA vaccine.  $1 + 3 + 4 + 2$

5. (a) State the composition of A and B group of blood antigen.

(b) How people with A group of blood antigen containing anti-B antibody and vice-versa ?

(c) Describe briefly about the production of monoclonal antibody.  $2 + 2 + 6$

6. Write short notes on (any four) :  $2\frac{1}{2} \times 4$

(i) Advantages of killed vaccine

(ii) Commercial recombinant vaccines

(iii) Characteristics of enzymes used in ELISA

(iv) Hazards of blood transfusion

( 4 )

(v) Application of mAb for diagnosis of cancer/  
tumor

(vi) Methods of HIV Testing.

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