

**2015**

**M.Sc.**

**2nd Semester Examination**

**MICROBIOLOGY**

**PAPER—MCB-201**

**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.*

*Answer any two questions from each group.*

**Group — A**

**[Marks : 20]**

**Answer any two questions**

1. (a) What is adhesion? What are their roles in the establishment of pathogen on specific site of host tissue?
- (b) How pathogens spread into the deep layer of host's tissue?

*(Turn Over)*

- (c) Classify exotoxins according to the cell specificity.
- (d) What are hemolysins? (1+3)+3+2+1
2. Give an idea about preexisting structural and chemical defenses of plant against pathogens. Write a brief note on the defense through development of genetically Engineering Disease resistant plants. 6+4
3. Write short notes on any four :  $2\frac{1}{2} \times 4$
- (a) Phytoalexin ;
  - (b) Dimorphic capacity of host tissue ;
  - (c) Angiogenesis ;
  - (d) Cytopathic effect of virus infection ;
  - (e) Sources of infectious agents ;
  - (f) Healing capacities of host tissue.

**Group — B****[Marks : 20]**

Answer any two questions :

4. (a) Design an experiment to establish that donor lymphocytes but not the serum antibody could transfer allograft rejection? Describe briefly a method used for HLA typing with suitable diagram?
- (b) Name one enzyme allergen? How does it trigger mast cell degranulation? Name one immunosuppressive drug along with its mode of action?

**(3+2)+(1+2+2)**

5. Answer the following :

- (a) Describe genetic basis of class switching mechanism during antibody formation.
- (b) Illustrate in detail the generation of C3 and C5 convertase during complement activation. 5+5

6. Write short notes on any four :

 **$2\frac{1}{2} \times 4$** 

- (a) Hypervariable region of antibody;
- (b) NK Cell;

- (c) Grave's disease ;
  - (d) Function of IgA ;
  - (e) Tolerance of autoimmunity ;
  - (f) Erythroblastosis fetalis.
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