

PG. 4Th SEMESTER EXAMINATIONS, 2022

Subject: BOTANY

Course Code: BOT404EB (TH)

Course ID: 41354

Course Title: Microbiology (Special Paper)

Full Marks: 30

Time: 2 Hours

The figures in the margin indicate full marks

Answer all the questions.

UNIT I

1, Answer *any* four of the following questions: (1x4=4)

- (a). How is pathogenicity islands acquired?
- (b). Define cytotoxic T cells.
- (c). What are permissive cells?
- (d). Define therapeutic index of a drug.
- (e). What is plasmid curing?
- (f). What is the antimicrobial attribute of surfactant protein SP-A?
- (g). Why *Coxiella* are more heat resistant than other Rickettsias?
- (h). What is meant by Extremophiles?

UNIT II

2. Answer *any* two of the following questions: (5x2=10)

- (a). Write a short note on cultivation of virus. What do you mean by plaque?
(4+1=5)
- (b). State the mechanism of action of sulphonamides. What do you mean by third generation antibiotics ? (4+1=5)

(c). Define quorum quenching. Explain the quorum sensing mechanism in *Vibrio fischeri* at low and high cell densities. (1+4=5)

(d). Write a short note on Chlamydial disease of human. How is the heat stability character attributed in cytoplasmic membrane ? (4+1=5)

UNIT III

3. Answer *any* two of the following questions: (8x2=16)

(a). Discuss in detail about the characteristic features of antiviral drug. Add a note on bioremediation mechanism. (4+4=8)

(b). What are the key elements of the innate immune system? What is the significance of immunological memory? Give an account of the mechanism of immediate type 1 hypersensitive reaction. (2+2+4=8)

(c). Differentiate elementary body from reticulate body. Discuss the different factors for emergence of Multidrug resistance organism. (2+6=8)