PG Even Semester (CBCS) Exam., May—2019

LIFE SCIENCE AND BIOINFORMATICS

(2nd Semester)

Course No. : LSBCC–201

(Microbiology)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **five** questions, selecting **one** from each Unit

UNIT—I

1. Explain with illustrations the molecular tools and genotyping methods for microbial identification at species level. 7+7=14

2. Discuss the methods of application and mode of action of radiation in microbial growth control. 14

UNIT—II

3. Compare and differentiate between the microbial aerobic and anaerobic respiration. 7+7=14

4. *(a)* Discuss the features that are common between Archaea and Eukaryotes.

(b) Discuss the features that differentiate between Prokaryotes and Archaea. 7+7=14

UNIT—III

5. *(a)* Discuss giving examples the classification of RNA viruses.

(b) Illustrate the mode of viral entry and disease progression of AIDS viruses. 4+10=14

6. Giving examples, discuss how microbial evolutionary gain of traits is mediated. 14

UNIT—IV

7. *(a)* Explain the important adaptations in cyanobacteria.

(b) Write a note on ethanol producing microorganisms. 7+7=14

8. Discuss the physiological adaptations evident in high temperature loving microbes. Add a note on important products from thermophiles. 10+4=14

UNIT—V

9. *(a)* Giving suitable model, explain the mode of action of antibiotics.

(b) Explain how bacterial pathogens overcome the host defence strategies. 9+5=14

10. *(a)* What are xenobiotics? Discuss the mechanisms involved in degradation of xenobiotics by microbes.

(b) Add a note on phytoremediation. 10+4=14

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