F. Y. B. Sc. (Biotechnology) SEM – II (CBCS - 2015 COURSE) : SUMMER - 2019

Subject: Introduction to Microbiology

Day: Monday
Date: 08/04/2019

S-2019-1372

Time: 02.00 PM TO 05.00 PM
Max. Marks: 60

N.B.:

1) Q1 and Q5 are compulsory.
2) Answer ANY TWO questions from Q 2, 3, 4 in Section I.
3) Answer ANY TWO questions from Q 6, 7, 8 in Section II.
4) Answers to Both the sections to be written in SAME answer books.
5) Draw a labeled diagram WHEREVER necessary.

SECTION - 01

Q.1) Answer the following: (ANY FIVE) (2 Marks X 5 = 10)

a) What is difference between Electron microscope and light microscope?
b) Mention various parts of bright field microscope.
c) How immersion oil increases the microscope resolution?
d) Mention Koch's postulates
e) Classify the bacteria on the basis of their shapes.
f) Why the Gram negative bacteria stains pink in colour?

Q.2) Answer the following: (5 Marks X 2 = 10)

a) Explain the principle and working of fluorescence microscopy.
b) Explain the ultrastructure of flagella.

Q.3) Explain the following: (5 Marks X 2 = 10)

a) Mention the principle and working of SEM.
b) Elaborate on cell wall of Gram negative bacteria. Explain the role of lipopolysaccharides (LPS)

Q.4) Write short notes on the following: (5 Marks X 2 = 10)

a) Contribution of Robert Koch
b) Structure of peptidoglycan

SECTION - 02

Q.5) Answer the following: (ANY FIVE) (2 Marks X 5 = 10)

a) What are Conjugative plasmids? Give example.
b) What is the role of magnatosomes and gas vacuole in bacteria?
c) What are macronutrients? Give examples
d) What is generation time?
e) What is Defined Media?
f) What are the types of bacteria on the basis of source of energy?

Q.6) Answer the following: (5 Marks X 2 = 10)

a) Explain the significance of sequencing technique in microbial taxonomy
b) Explain defined and complex media with example.

Q.7) Explain the following: (5 Marks X 2 = 10)

a) Write a note on Bergey's manual of systematic bacteriology
b) Discuss use of radiations for microbial control

Q.8) Write short notes on the following: (5 Marks X 2 = 10)

a) Methods of isolation of pure culture
b) Mode of action of halogen and heavy metal

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