U.G. 1st Semester Examination - 2020
MICROBIOLOGY
[HONOURS]
Course Code : MB-H-CC-L-01
(Basic Microbiology and Culture Techniques)

Full Marks : 40   Time : $2\frac{1}{2}$ 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.

1. Answer the following questions :   1×10=10

    i)   Define heterotrophs in terms of carbon utilization.

    ii)   "Viruses are microbe", is it true?

    iii) What is the basic information one can get from Koch's postulates?

    iv)   What do you mean by growth rate of bacteria?

    v)   Write the name of a process for determination of total count of bacteria.

    vi)   Give an example of capsular stain.

    vii) At what temperature steam sterilization is done?

    viii) How are heat labile plastics sterilized?

    ix)   Give an example of gaseous sterilant.

    x)   Write the name of electron acceptor in anaerobic culture.

2. Answer any **five** of the following: 2×5=10

    i)   Write the contribution of Joseph Lister in Microbiology.

    ii)   Write the importance of serial dilution in microbiological studies.

    iii) How is the pure culture of bacteria preserved?

    iv)   Write the difference between growth rate in batch and continuous system.

    v)   Differentiate phototrophs and chemotrophs.

    vi)   Write the significance of surface to volume ratio of bacteria.

    vii) Differentiate antiseptic from sanitizer.

    viii) What is negative staining?

3. Answer any **four** of the following: 5×4=20

    i)   Briefly discuss the different physical factors that influence growth of bacteria.

ii) Write the different processes of enumeration of bacteria within various samples.

iii) Briefly describe the differential staining method.

iv) How will you evaluate the antimicrobial efficacy of a given chemical agent?

v) Write the different physical methods of sterilization.

vi) Briefly describe the growth kinetics of bacteria in batch culture system.

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