

**2018**

**M.Sc. 2nd Semester Examination**

**MICROBIOLOGY**

**PAPER—MCB-204**

**Subject Code—31**

**(Elective)**

*Full Marks : 40*

*Time : 2 Hours*

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

*Illustrate the answers wherever necessary.*

**1. Answer any ten questions :**

**10×2**

(a) Classify biofuel.

(b) Why habitats of microorganisms are important ?

*(Turn Over)*

- (c) What is biodegradation ?
- (d) Write the characteristics of thermophilic bacteria.
- (e) What is resolving power of microscope ?
- (f) Define disinfectant.
- (g) What is HEPA ?
- (h) Define heterotroph.
- (i) What is flagella ? State its significance.
- (j) What is xenobiotics ?
- (k) What do you mean by theory of spontaneous generation ?
- (l) What is extremophiles ?
- (m) For what contributions are A. Van Leeuwenhoek and Edward Jenner most remembered in microbiology ?
- (n) What is meant by the term "enrichment culture" ?

- (o) Name the pathogen responsible for the human disease like gonorrhoea and whooping cough.
- (p) Why is aseptic technique necessary for successful cultivation of pure culture in the laboratory ?
- (q) What is Taq polymerase and why is it important ?

2. Answer any *two* questions : 10×2

- (a) Classify habitats of microorganisms. Give a critical comments on suitability of biodiesel in India. How microbes drives the biogeochemical cycles ? 3+3+4
- (b) What are Koch's postulates ? State the contribution of Louis Pasteur in microbiology. What is Germ theory of disease ? 3+5+2
- (c) State the mechanism of Gram staining. What are the different molecular approaches for characterization of microorganisms ? Differentiate between SEM and TEM. 4+4+2

- (d) What is cold sterilization ? State the mode of action of UV-ray. Write the name of one gaseous chemical agent used as microbial growth controlling agent. What are the different types of Pasteurizations ? What is autoclave and hot-air oven ?

2+3+1+2+2

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