

**LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034****M.Sc. DEGREE EXAMINATION – ZOOLOGY****THIRD SEMESTER – NOVEMBER 2023****PZO3MC02 – IMMUNOLOGY MICROBIOLOGY AND EPIDEMIOLOGY**

Date: 01-11-2023

Dept. No. 

Max. : 100 Marks

Time: 01:00 PM - 04:00 PM

**SECTION A – K1 (CO1)****Answer ALL the questions****(5 x 1 = 5)****1 Fill in the blanks**

- a) Monocytes differentiate into phagocytic cells known as -----.
- b) The microbes which can survive in permafrost and ice glaciers are known as -----.
- c) Mechanism to protect an individual from self-immune attack is termed as -----.
- d) Rapid spread of a disease in a population in a short period of time is called -----.
- e) MHC class II molecules are expressed by ---- cells.

**SECTION A – K2 (CO1)****Answer ALL the questions****(5 x 1 = 5)****2 True or False**

- a) Plasmapheresis is an extracorporeal therapy.
- b) Landfarming is not suitable for treating waste prone to bioleaching.
- c) Probiotics can adhere and colonize only the intestinal tract.
- d) Viruses are not included in Whittaker's five kingdom classification.
- e) Complementarity determining regions present in antigens help to bind with antibodies.

**SECTION B – K3 (CO2)****Answer any THREE of the following****(3 x 10 = 30)**

- 3 Differentiate between epidemic and pandemic with examples and write a note on the stages.
- 4 Illustrate and explain the ultrastructure of cilia and flagella of microbes.
- 5 Elaborate on the principle and advantages of competitive ELSIA.
- 6 Explain the types of immune cells in myeloid lineage.
- 7 Classify the type of microbial culture media.

**SECTION C – K4 (CO3)****Answer any TWO of the following****(2 x 12.5 = 25)**

- 8 List out the applications of genetically modified microbes.
- 9 Analyze the role of different types of antibodies in immune system.
- 10 List out the types of vaccines and its advantages.
- 11 Explain a few worst pandemics of the past.

**SECTION D – K5 (CO4)**

**Answer any ONE of the following**

**(1 x 15 = 15)**

12 Summarize the innate and adaptive immune responses during viral infection.

13 Evaluate the role of microbes in bioremediation, food industry and health.

**SECTION E – K6 (CO5)**

**Answer any ONE of the following**

**(1 x 20 = 20)**

14 “WHO plays a major role in prevention and control of epidemics” – Justify.

15 Summarize the development, maturation and activation of T cells.

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