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Roll No. ....

# **MSCZO-604**

## MICROBIOLOGY & IMMUNOLOGY

M.Sc. Zoology (MSCZO)

3rd Semester Examination, 2023 (Dec.)

Time : 2 Hours]

## Max. Marks : 70

Note: This paper is of Seventy (70) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein. Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.

#### SECTION-A

# (Long Answer Type Questions)

**Note :** Section 'A' contains Five (05) long answer type questions of Nineteen (19) marks each. Learners are required to answer any Two (02) questions only.

 $(2 \times 19 = 38)$ 

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- 1. Write an essay on the classification of Bacteria.
- **2.** Differentiate between simple and differential stains. Describe the unique features and use of commonly used stains.
- **3.** Describe in detail the role of microorganisms in the productivity of ecosystems.
- **4.** What do you understand by immunity? Describe the Humoral immunity in detail.
- 5. What are adjuvants? Describe their characteristics and uses in detail.

# SECTION-B

# (Short Answer Type Questions)

- **Note :** Section 'B' contains Eight (08) short answer type questions of Eight (08) marks each. Learners are required to answer any Four (04) questions only. (4×8=32)
- 1. Differentiate between Active and Passive immunity.
- **2.** What is the principle of tyndallization? What temperature is used for tyndallization?
- 3. What are biological indicators of soil health?
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- **4.** What is bioremediation? What are the components of bioremediation?
- **5.** What are antibiotics used for? Why antibiotics are prescribed even in viral infections?
- 6. What is vaccine used for? Who discovered the vaccine?
- 7. Comment on Sandwich ELISA.
- **8.** Comment on Hypersensivity.