



(University of Choice)

**MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF NURSING, MIDWIFERY & PARAMEDICAL SCIENCES
CLINICAL NURSING AND HEALTH INFORMATICS**

**UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR
SUP/SPECIAL EXAM**

COURSE CODE: NCD 133

COURSE TITLE: *IMMUNOLOGY*

DATE: MONDAY, 03/10/2022

Time: 8AM-11AM

INSTRUCTIONS TO CANDIDATES

All questions are compulsory

DURATION: 3 Hours

MMUST observes ZERO tolerance to examination cheating

This paper consists of 7 printed pages. Please turn over.

SECTION I: MCQs (20 marks)

1. The secondary, but not the primary, immune response is based on:
 - A Memory
 - B The bonus effect of multivalence
 - C Complement activation
 - D Mast cell degranulation
2. Which cell type produces antibodies?
 - A Macrophages
 - B T-lymphocytes
 - C NK
 - D Plasma cells
3. Secondary antibody responses are better because:
 - A They provide defense against unrelated antigens
 - B The antibody can be made by both T and B cells
 - C They do not require T-cell help
 - D They are stronger and faster
4. Which of the following does not protect body surfaces?
 - A Skin.
 - B Mucus.
 - C Gastric acid.
 - D Salivary amylase
5. The mononuclear phagocyte system does not include:
 - A Endothelial cells.
 - B Kupffer cells.
 - C Kidney mesangial cells.
 - D Lymph node medullary macrophages.

6. A polymorphonuclear neutrophil (PMN):
- A Is a bone marrow stem cell.
 - B Is closely similar to a mast cell.
 - C Contains microbicidal cytoplasmic granules.
 - D Is not a professional phagocytic cell.
7. Neutrophil defensins are:
- A Anti-toxins.
 - B Peptide antibiotics.
 - C Enzymes.
 - D Glycolipids
8. Which cell type produces antibodies?:
- A Macrophages
 - B T-lymphocytes
 - C NK
 - D Plasma cells
9. Acute inflammation characteristically involves:
- A Influx of neutrophils.
 - B Capillary endothelial cell enlargement.
 - C Influx of macrophages.
 - D Influx of mast cells.
10. Interferons:
- A Are found only in mammalian species.
 - B Are divided into 5 main families.
 - C Induce enzyme synthesis in the target cell.
 - D Only affect infected cells.
11. Natural killer (NK) cells do not:

- A Respond to interferon.
- B Contain perforin.
- C Contain tumor necrosis factor (TNF).
- D Kill only by damaging the target cell outer membrane.

12. Eosinophils do not:

- A Stain with basic dyes.
- B Contain a major basic protein.
- C Contain peroxidase.
- D Give a respiratory burst on activation.

13. Acute inflammation can be initiated by:

- A Mast cell activation.
- B Influx of neutrophils.
- C An increase in vascular permeability.
- D C3.

14. Several of the complement components are:

- A Glycolipids
- B Cytokines
- C Enzymes
- D Hormones

15. Plasma cells:

- A Have a thin layer of cytoplasm
- B Are derived from T-cells
- C Have a highly developed rough endoplasmic reticulum
- D Secrete large amounts of gamma interferon

16. A plasma cell secretes:

A Antibody of a single specificity related to that on the surface of the parent B-cell

B Antibody of two antigen specificities

C The antigen it recognizes

D Many different types of antibody

17. Adoptive transfer of acquired immune responsiveness involves the transfer of:

A Antibody

B Complement

C Phagocytes

D Lymphocytes

18. Edward Jenner vaccinated against smallpox using:

A Killed smallpox virus

B A Have a highly developed rough endoplasmic reticulum

C Cowpox

D Toxoid

19. Protective antibodies against infectious agents are often:

A Autoantibodies

B Neutralizing

C Toxoids

D Natural Killer

20. Secondary antibody responses are better because:

A They provide defense against unrelated antigens

B The antibody can be made by both T and B cells

C They are stronger and faster

D They do not require T-cell help

SECTION B: SHORT ANSWER QUESTIONS (40 marks)

1. Describe four characteristics of immune response (8marks)
2. Describe the four factors that influence immunogenicity (8 marks)
3. Explain four autoimmune diseases (8 marks)
4. Describe four organs of the immune system to include their functions (8 marks)
5. Organ transplantation is a medical procedure in which an organ is removed from one body and placed in the body of a recipient, to replace a damaged or missing organ.
 - (i) Define organ Transplant rejection (2marks)
 - (ii) Explain three types of rejection (6 marks)

SECTION C: LONG ANSWER QUESTIONS (40 marks)

1. Describe the four types of hypersensitivity reactions (20 marks)
2. In five different bases, compare humoral immunity and cell-mediated immunity (20 marks)

End#