Date of Exam: 03.12.2020

Kishore Bharati Bhagini Nivedita College (Co-Ed.)

(Affiliated to the University of Calcutta)

2020

ZOOLOGY – HONOURS

Paper : CC-10 (Immunology)

Full Marks : 50 **Time : 2 *Hrs.***

The figures in the margin indicates full marks.
Candidates are required to give their answers in their own words as far as practicable.

Send PDF of the Answer Script to **kbbnczoology@gmail.com**

Answer any ***twenty five (25)*** questions from the following: 2×25

1. What is interleukin?
2. Classify Adaptive immunity with brief notes.
3. What is PRR?
4. What are the types of Hypersensitivity? Define briefly.
5. What is Inflammation?
6. What are Opsonins?
7. What is secondary anamnestic response?
8. What are second generation and third generation vaccines?
9. What is Selectin? Define its type.
10. Give a short account on NK cells.
11. Define Hapten.
12. Mention two functions of T cell.
13. What are helper T cell?
14. Where do you find Toll like receptor and MHC class I molecule?
15. What is class switching?
16. Mention two features of IgG.
17. Define acquired immuno deficiency.
18. What are hemopoetic stem cells?
19. What is Cytokine?

20. What is humoral immunity?
21. Where do you find J-chain?
22. When and where C3b gets activated?
23. What is Complement in immune system?
24. What is toxoid?
25. What is avidity?
26. Write two differences between CD4+ and CD8+ T cells.
27. Immunologic memory refers to:
    a) activation of phagocytic cells to ingest microbial invaders
    b) changes in adaptive immune responses with subsequent encounters with antigen
    c) constancy of the response of the innate immune response to a particular microbe
    d) stimulating a defective host cell with reduced MHCI molecules to commit suicide
28. Which of the following is most likely to induce the greatest adaptive immune response in a 22 year old man:
    a) 250,000Da plasma protein from the same 22-year old human male
    b) 150,000Da toxin produced by bacteria
    c) 500Da plasma protein from a chimpanzee
    d) 400Da cholesterol molecule from an unrelated human female
29. The alternative complement pathway is initiated by:
    a) cell-surface constituents that are recognised as foreign to the host
    b) mannose-containing residues of glycoproteins on certain microbes
    c) stimulation of killer activation receptors on NK cells
    d) the formation of antigen-antibody complexes
30. A 14-month old boy who has not received any recommended vaccines remains healthy despite his daily association with several other children for the past year at a home day care facility. Which of the following mechanisms best explains why he has not contracted diptheria, measles or polio?
    a) herd immunity
    b) genetic drift
    c) immune evasion
    d) tolerance

31. A 35-year old man presents with headache, fatigue, difficulty in breathing and tachycardia (rapid heart rate). Laboratory findings reveal decreased haemoglobin and a positive direct Coomb's test (presence of antibodies on erythrocyte surfaces). The pateint is currently taking an antibiotic for symptoms of upper respiratory infection. These findings suggest which type of hypersensitivity?
    a) Type I, mediated by IgG antibodies
    b) Type II, mediated by IgG antibodies
    c) Type III, mediated by IgG or IgM antibodies
    d) Type IV, mediated by CD4+ T cells
32. Which type of cells are notable for their presence at the sites of helminth infections? Explain briefly.
33. Where and when do you find Integrins?
34. Which molecules are expressed on the surfaces of the CD4+ and CD8+ cells?
35. Differentiate between T-lymphocytes and B-lymphocytes?

****