



**WEST BENGAL STATE UNIVERSITY**

B.Sc. Honours 4th Semester Examination, 2021

**ZOOACOR10T-ZOOLOGY (CC10)**

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.  
Candidates should answer in their own words and adhere to the word limit as practicable.  
All symbols are of usual significance.*

1. Answer any **eight** questions from the following: 2×8 = 16
- (a) What do you mean by secondary lymphoid organ?
  - (b) What is meant by the term anaphylaxis?
  - (c) Differentiate between T<sub>H</sub>1 and T<sub>H</sub>2 cell.
  - (d) What is ADCC?
  - (e) State the occurrence and function of Langerhans cell.
  - (f) What do you mean by interleukin and interferon?
  - (g) Give an example of passive immunization.
  - (h) What is hapten?
  - (i) Distinguish between affinity and avidity of antibody.
  - (j) What is superantigen?
  - (k) What is the function of secondary antibody in ELISA?
  - (l) Distinguish between polyclonal and monoclonal antibody.
  - (m) Mention the source and function of GM-CSF.
  - (n) What is auto-immune disease?
  - (o) What is Herd immunity?
2. Answer any **three** questions from the following: 3×3 = 9
- (a) Distinguish between agglutination and precipitation in antigen-antibody reaction. 3
  - (b) Evaluate the role of Bursa of Fabricius as an organ in immunity. 3
  - (c) State the sequential steps of hybridoma production. 3
  - (d) How T cells are selected in thymus in the process of maturation? 3
  - (e) What is live vaccine and killed vaccine? Give example of each type. 3
  - (f) Which region of an immunoglobulin molecule determines its class? What is meant by the term immunoglobulin class switching? 1+2

3. Answer any **three** questions from the following: 5×3 = 15
- (a) Classify immunoglobulin molecules based on the nature of H-chain. Which of these classes of antibody secretes with body fluid? 4+1
  - (b) Briefly outline two non-specific defences against infection. What is NSI antigen test? 4+1
  - (c) Describe how the immune system defeats the Dengue virus. 5
  - (d) Write down the major difference between primary and secondary immune response. What is immunological tolerance? 4+1
  - (e) What is delayed type hypersensitivity? Explain with an example. 5
  - (f) Compare and contrast the phenotypical and functional features of neutrophils and macrophages. Name the main cytokines produced by these cells and their role in the inflammatory response. 2+3

**N.B. :** *Students have to complete submission of their Answer Scripts through E-mail / Whatsapp to their own respective colleges on the same day / date of examination within 1 hour after end of exam. University / College authorities will not be held responsible for wrong submission (at in proper address). Students are strongly advised not to submit multiple copies of the same answer script.*

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