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Family Name					
Given Name/s					
Student Number					
Teaching Period	Semester 1, 2018				

SBI283 – Immunology	DURATION	
	Reading Time:	10 minutes
	Writing Time:	120 minutes
INSTRUCTIONS TO CANDIDATES		
Section A: Suggested Time: 40 mins	Multiple Choice Questions: Answer ALL 35 questions. Marks as indicated on paper (Total marks = 35)	
Section B: Suggested Time: 80 mins	Short Answer Questions: Answer ALL 10 questions. Marks as indicated on paper. (Total marks = 70)	
EXAM CONDITIONS		
You may begin writing from the commencement of the examination session. The reading time indicated above is provided as a guide only.		
This is a CLOSED BOOK examination		
No calculators are permitted		
No handwritten notes are permitted		
No dictionaries are permitted		
ADDITIONAL AUTHORISED MATERIALS	EXAMINATION MATERIALS TO BE SUPPLIED	
No additional printed material is permitted	1 x 20 Page Book 1 x 4-Multiple Choice Answer Sheet 2 x Scrap Paper	

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DOUBLE-SIDED.**

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Section A

Multiple Choice Questions

Section B

Short Answer Questions

Total No of Marks for this Section: 70

This section should be answered in the Answer Booklet provided.

Marks for each question are indicated. Suggested time allocation for Section B: 80 mins

Question 1

A functional immune system requires primary and secondary lymphoid organs.

- a) Briefly describe the immunological processes that occur in primary lymphoid organs. (Marks: 6)
- b) Briefly describe the immunological processes that occur in secondary lymphoid organs. (Marks: 6)

Question 2

Different classes of antibodies mediate different effector functions.

- a) Which class of antibodies is the FIRST to be produced during the primary immune response? (Marks: 1)
- b) Name two effector functions characteristic for this antibody class. (Marks: 2)
- c) Briefly describe how these effector functions contribute to the elimination of pathogens. (Marks: 6)

Question 3

Differentiate between endocrine, paracrine, and autocrine cytokine action. Provide an example of a cytokine that demonstrates such activity. (Different cytokines may be listed for each term.)

(Marks: 6)

Question 4

What are the two major goals of positive and negative selection during T cell development?
(Marks: 2)

Question 5

List three characteristics of apoptosis.
(Marks: 3)

Question 6

Imagine you are walking barefoot across a pasture when your foot becomes punctured with a dirty splinter. Describe in detail the inflammatory responses that occur in your foot over the next few hours.
(Marks: 10)

Question 7

Immunoassays can use polyclonal or monoclonal antibody preparations.

- a) How do polyclonal antibodies differ from monoclonal antibodies?
(Marks: 2)
- b) Describe one immunoassay that requires the use of polyclonal antibodies.
(Marks: 4)
- c) Describe one immunoassay that requires the use of monoclonal antibodies.
(Marks: 4)

Question 8

In flow cytometry, in addition to fluorescent markers, forward (FSC) and side (SSC) scatter are measured. Please describe what physical characteristics of a cell are measured by FSC and SSC.
(Marks: 2)

Question 9

Explain why active immunisation produces long-term immunity better than passive immunisation? Give an example for each.

(Marks: 8)

Question 10

Describe the hallmarks of type I hypersensitivity? What causes these reactions?

(Marks: 8)