

Name _____
Last (as on TCard) First (as on TCard) Preferred First (optional)

Student # _____ Signature _____

**UNIVERSITY OF TORONTO
Faculty of Arts and Science**

DECEMBER 2013 EXAMINATIONS

HMB302H1F Histology and Histopathology

Duration — 2 hours

No Aids Allowed

This exam is out of 60 marks. There are 12 short answer/essay questions with marks for each question indicated.

Instructions:

1. Read each question carefully and watch your time. Do all questions.
2. Answer all questions only in the exam booklets provided. Use fully labelled diagrams whenever possible; point form is not allowed.

Good luck!

Invigilators are not permitted to interpret questions for individual students. If you think that a question is ambiguous, answer as you understand it, then make a note here. Please be specific.

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Short Answer Questions. Use fully labelled diagrams whenever possible; point form is not allowed; Question 1 is worth 20 marks, and questions 2 and 3 are worth 25 marks each; total 70.

- 1) Draw a fully labelled diagram of the following terms. Briefly describe their function and location within the body. Limit your answer to one a page or less for each (marks appear in brackets).
 - a) Portal Acinus model (10 marks)
 - b) Segmental bronchus and its accompanying artery (5+5 marks = 10 marks in total)

- 2) Lymph nodes are small oval lymphoid organs that have a variety of functions. Compare and contrast the journey of a single B-lymphocyte and a single CD4⁺ T cell (both activated by *Mycobacterium tuberculosis*) as the lymphocytes and bacterium enters a lymph node until the lymphocytes exits the lymph node. Describe and discuss the major histological and histopathology features the lymphocyte would encounter along its journey. (Fully labelled diagrams required; point form is not allowed; 25 marks; 2 pages maximum).

- 3) Duodenal ulcers are the consequence of excess exposure of the mucosa to the aggressive actions of gastric acid-pepsin that overwhelms the body's normal defences. Discuss the pathobiology and histopathology of a late stage duodenal ulcer in relation to the fundamental plan of the digestive system. (Fully labelled diagrams required; point form is not allowed; 25 marks; 2 pages maximum).

Total Pages = 2

Total Marks = **70**