

R249/303

DUBLIN INSTITUTE OF TECHNOLOGY
KEVIN STREET, DUBLIN 8.

BSc Information Systems / Information Technology

Stage 3

SUPPLEMENTAL EXAMINATIONS 2007

INTERNET DEVELOPMENT

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1.5 HOURS

ATTEMPT **3** QUESTIONS

ALL QUESTIONS CARRY EQUAL MARKS

1. (a) Provide a detailed design for a tiered web application for an online bookstore which uses at least four different programming / scripting languages.

Use sample code and diagrams to explain in detail the role and function of all the relevant technologies.

33 marks

2. (a) Explain clearly the difference between the *Internet* and the *World-Wide-Web*.

9 marks

- (b) Provide an outline of the structure and operation of the HTTP protocol.

9 marks

- (c) *Future versions of HTTP will be required to transport many more types of media (audio, video etc.) than was initially intended by the designers of HTTP.*

Discuss whether you feel the protocol will require modifications in order to support these requirements. Justify your arguments.

15 marks

3. (a) In your opinion, are the high levels of expenditure on security for modern web applications justified? Briefly justify your opinion.

9 marks

- (b) Discuss briefly *three* common attack techniques which can be used by hackers of web applications.

9 marks

- (c) If you were hired as a security expert for a company which wanted to implement security for their online bookstore application, what are the methods you would use to secure their application? Justify your choices.

15 marks

4. (a) Demonstrate and discuss the structure, strengths and weaknesses of the IPv4 and IPv6 protocols.

16 marks

- (b) If you were hired as a web expert for an organisation which wanted to make their online bookstore available to mobile devices, describe in detail the advice you would give to the organisation. Justify this advice in detail with reference to relevant protocols and technologies.

17 marks