

W249/303

DUBLIN INSTITUTE OF TECHNOLOGY
KEVIN STREET, DUBLIN 8.

BSc Information Systems / Information Technology

Stage 3

WINTER EXAMINATIONS 2007

INTERNET DEVELOPMENT

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MONDAY, 15TH JANUARY 2007, 14:00 – 15:30

ATTEMPT 3 QUESTIONS

ALL QUESTIONS CARRY EQUAL MARKS

1. (a) Discuss two major challenges that are being faced by IPv4 in the face of the Internet scaling problem. **9 marks**
- (b) Describe the general structure of text messages or documents on the Internet. **9 marks**
- (c) Explain, with an illustration that uses example code in Internet or web programming languages of your choice, the combined use of mark-up and scripting languages. **15 marks**
2. (a) Two HTTP/1.0 request methods are POST and GET. Discuss the uses of each method. **9 marks**
- (b) Describe the characteristics of the following types of Internet application development languages:
1) a scripting language, and
2) a markup language. **9 marks**
- (c) With the aid of a diagram, describe the transportation of e-mail from the sender's to the recipient's e-mail client application. In your description, identify the protocols that are involved at each stage of e-mail transportation. **15 marks**
3. (a) Propose an architecture for a typical company web application that you could develop to utilise the company's database. **15 marks**
- (b) Explain three safeguards that you could use to protect your website from cross-scripting (XSS) vulnerabilities. **9 marks**
- (c) List four things a website attacker can do and identify five methods that the attacker of a website can use. **9 marks**
4. (a) Explain how an attack on a web application can be brought about as a result of the cross-scripting vulnerability. **9 marks**
- (b) Briefly discuss the relevance of databases in web applications. **9 marks**
- (c) Differentiate between static content and dynamic content on the Web using examples from what you have learned during this course. **15 marks**