

**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF APPLIED SCIENCE
COMPUTER SCIENCE DEPARTMENT
DECEMBER 2002 EXAMINATIONS**

**SUBJECT: INTERNET AND WEB DESIGN
CODE: SCS 2204**

Instructions to candidate:

1. Answer any five questions. Paper contains Six questions.

3 HOURS

QUESTION ONE

a) Define the following:

- i. Internet
- ii. SMTP
- iii. Top Level Domain
- iv. Telnet
- v. URL [5]

b) One of the technologies at the heart of E-Commerce is electronic mail (e-mail). Explain and describe the structure of e-mail, as well as giving the universal functions of e-mail programs. [8]

c) According to the developers of Java programming language, what is it? What is JavaScript? Write a JavaScript function called ***ValidateEmail*** that tests whether an email entered by a user in a form field conforms to the basic structure of an email? [7]

QUESTION TWO

- a) If you were involved in a chat room session, what would the following stand for?
- i. DBEYR
 - ii. AOAS
 - iii. IMHO
 - iv. GNBLFY
 - v. GMTA [5]

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- b) Define what is a protocol. What are the main basic differences between the HTTP and the FTP protocols? (Not details but main principles). [7]
- c) What are the advantages of using the following types of graphic files web pages?
- i. GIF
 - ii. Jpeg
- [8]

QUESTION THREE

- a) Distinguish between an absolute URL and a relative URL. [5]
- b) What is the eXtensible Markup Language? Compare and contrast XML and HTML. [8]
- c) What is the internet? What is the World Wide Web? Compare and contrast these technologies? [7]

QUESTION FOUR

- a) JavaScript is an object-based language, which means it supports objects and many of the fundamental object oriented concepts. JavaScript provides objects that can be grouped into the following three classes built-in objects, HTML objects, and browser objects. By first defining what is an object, distinguish between the three classes of JavaScript objects. [5]
- b) What is the common gateway interface?
There are two possible functions or roles that a CGI can fulfil, that of information conduit and that of the processor itself. With the aid of diagrams explain these two roles. [6]
- c) You are the owner of a software firm that is about to release a new software product. Your aim is to protect your product, given that there are four types of protection that can be used:

- Copyrights
- Patents
- Trade Secrets
- Trademarks

Explain how each provides intellectual property protection as well as the advantages and disadvantages of each methodology. [9]

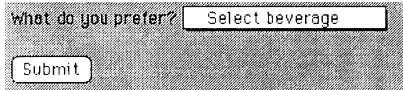
QUESTION FIVE

- a) If a user asks for a web page at a certain URL, but that page is no longer stored at the indicated URL, the web browser can automatically download the right web page from another URL. How can this be specified using HTTP commands or JavaScript? [5]
- b) i) What are the limitations of HTML that make the use style sheets an advantage, and state these advantages of style sheets.
ii) Assume you have a style sheet file (with defined attributes) whose name is *CoolStyles.css*, placed in a directory called *styles* i.e. *c:\styles*. Style sheet methods can be applied at four different levels, explain any two of these levels. Give a HTML coded example for each level, use the file *CoolStyles.css* where appropriate. [8]
- c) What is a Web Gateway? When a CGI program is called, the information that is made available to it can be roughly broken into three groups. Classify these three groups? [7]

QUESTION SIX

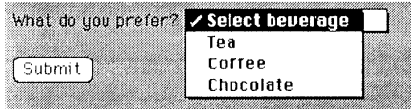
a) Name five mistakes that people can make in the design phase of a website in terms of usability.[5]

b) A part of a web page looks like this:



A screenshot of a web form. It contains the text "What do you prefer?" followed by a dropdown menu with the text "Select beverage" inside. Below the dropdown is a "Submit" button.

If you click on "Select beverage", you will see the following:



A screenshot of a web form with the dropdown menu open. The text "What do you prefer?" is followed by a dropdown menu with "Select beverage" selected. Below the dropdown is a "Submit" button. The dropdown menu is open, showing three options: "Tea", "Coffee", and "Chocolate".

Which HTML code will produce this result? [7]

c) Comment on the impact of the internet on the privacy, societal and legal aspects of life. [8]

END OF QUESTION PAPER

GOOD LUCK!