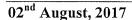
THE OPEN UNIVERSITY OF SRI LANKA DEPARTMENT OF COMPUTER SCIENCE B.Sc. DEGREE PROGRAMME 2016/2017

FINAL EXAMINATION

**CPU3149: WEB TECHNOLOGIES** 

**DURATION: TWO HOURS ONLY (2 HOURS)** 



Time: 9.30 a.m. to 11.30a.m.

Answer FOUR Questions ONLY.

### Q1). Education is a primary need of the society. The way we use to learn can be improved with the use of information technology.

- i. Describe briefly how we can use the Internet together with server-client architecture to improve the conventional learning process.
- ii. What is the role of server computer and client computers in the answer for section (i) above?
- iii. List two characteristics for each email protocol for sending and receiving emails.
- iv. What will be the ideal client model for the Internet based learning? Briefly explain your answer.

# Q2). You have been asked to create a website to maintain the information of the victims and damaged properties of the natural disasters in the country.

- i. List five standard HTML tags and briefly describe how they can be utilized for the above purpose.
- ii. List five web designing fundamentals you need to follow with this website and briefly explain the necessity of them.
- iii. Explain how we can use web animations to improve the quality of information on the website.
- iv. What kind of user interactions or features are essential for this website? List five of them.

  (Make any assumptions if only necessary)

## Q3). Suppose that you are operating a web technology company where you provide a web based solution for vehicle renting companies.

- i. Identify and describe a feature in your product which can be benefited from client side programming using JavaScript. (Make any assumptions if only necessary)
- ii. Explain a scenario where you will need server side programming when providing a certain feature for the solution consumers.

- iii. What is the advantage of using CSS technology in your solution? Describe using three (3) such advantages.
- iv. Briefly describe two facts related to web development to be considered when developing your solution. State the importance of them with respect to your product.

#### Q4). Centralized transport information system is the backbone of a well-planned country.

- i. Suggest what are the information we can store in an XML file and write down the XML structure for it. We use XML mainly to store read-only data.
- ii. Opposed to XML, a database can be more flexible with writing and reading data. Explain briefly how can we connect a database to our web application, insert some data to a suitable data table and retrieve some data from the database to display on a web page. Use imaginary host, username, password, database name and table names.
- iii. How can we use webservices to increase the availability of the information on the above system? Explain briefly.
- iv. List the steps required to display information on a browser when a user requests a certain page.

### Q5). A leading fashion store has developed an e-commerce solution to attract more customers.

- i. List the steps required for hosting the web application.
- ii. Briefly explain how search engines recommend/list the website when a person searches for fashion items.
- iii. Briefly explain three methods to increase the website rank on search engines.
- iv. List five security vulnerabilities that can make the e-commerce site insecure to operate.

#### Q6). A large product distribution network has all their shipping and logistic details online.

- i. How can they improve the distribution process using a mobile application? Explain briefly.
- ii. List five facts to be considered when developing a mobile app for the distribution team.
- iii. Describe two advantages and two disadvantages of using a mobile app for this business.
- iv. Briefly describe three best practices for maintaining their web based backend system.

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