THE OPEN UNIVERSITY OF SRI LANKA
DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE
B.Sc. DEGREE PROGRAMME 2015/2016
FINAL EXAMINATION
CPU3149: WEB TECHNOLOGIES
DURATION: **TWO HOURS ONLY (2 HOURS)**

048

21st July 2016   Time: 9.30 a.m. to 11.30a.m.

Answer **FOUR** Questions **ONLY**.

Q1). One of the leading universities is planning to implement a web based system to improve the efficiency of their academic process.

i.   List four improvements that can be achieved by implementing a web based system.

ii.   There will be several overheads introduced by such a system. Briefly explain two of them.

iii.   Draw a simple diagram to illustrate the architecture and the different components of the above system.

iv.   Explain how emails can be effectively used to improve the communication between students and the university. Use two scenarios.

v.   List four features you would expect to have when a student logs into the system.

Q2). Imagine you are running an online fashion store.

i.   List four HTML tags you would use on your webpages along with their purpose.

ii.   Briefly describe two measures you will be taking to improve the user experience.

iii.   Briefly describe two considerations you have to make when selecting a web animation technology.

iv.   List the steps of creating a web page using one of the web development tools.

v.   Briefly explain how CSS styles are applied to a web page while describing how to utilize different priority levels.

Q3). Your web development team is hired to revamp an HTML based static website of a restaurant by adding dynamic features.

i.   List four improvements you can make on the website.

ii.   Explain what is meant by 'setting customer expectations' when it comes to the web development.

iii.   Describe a scenario where you can improve the interactivity of the new website by using JavaScript.

iv.   Briefly explain the difference between using GET and POST methods on HTML Forms.

v.   List steps (pseudo code) of the backend program you will implement to reserve a table for two with meal selection.

Q4). Suppose you are operating a website to display train schedules, train information and to book tickets online.

   i.   List four different sample records you will store in your database.

   ii.   Write real-world examples for each of the following database actions related to your system; Insert, Retrieve, Update and Delete.

   iii.   Describe a scenario where you can use XML to share your data with other systems.

   iv.   Briefly describe two scenarios, where you can use external web services to improve the functionalities of your website.

   v.   Briefly describe how you would avoid two of the known security vulnerabilities related to your website.

Q5). You have undertaken a project to implement a website for a hotel including an online booking system.

   i.   Briefly describe two web technology best practices you will follow to meet the needs of your project.

   ii.   What is the server platform you will use? Explain your answer taking two advantages of the selected platform.

   iii.   Why is it important to find a hosting service provider rather than hosting your website in your own server. Explain briefly using two reasons.

   iv.   Describe how a search engine will use your website and its content to make your website available in their search results.

   v.   List two good practices to follow and two practices to avoid when you optimize your website for search engines.

Q6). A Vehicle listing website plans to increase their audience by attracting mobile users to consume their services.

   i.   Explain the difference between choosing to implement a mobile version of their website and a mobile web app.

   ii.   Briefly describe two **GUI** design considerations to be followed when optimizing your website into a mobile web app.

   iii.   Briefly describe two drawbacks of implementing a mobile web app as opposed to a native app.

   iv.   How can be the local storage capability of HTML5 used, to improve the user experience of the mobile users who search for vehicles?

   v.   If the listing service is provided for free, what will be the money generating mechanism for the website? How can it be improved with added mobile audience?