Wednesday, 19 January 2022

EAST WEST UNIVERSITY
Department of Computer Science & Engineering
B.Sc. in Computer Science and Engineering Program
Final Examination, Fall 2021 Semester

Course:	**CSE347 Information System Analysis and Design, Section-1**
Instructor:	**Md. Mohsin Uddin, Senior Lecturer, Department of CSE**
Total Marks:	**40 (20 will be counted for final grading)**
Time:	**1 Hour and 20 Minutes**

Note: There are **four** questions, answer all of them. Course Outcome (CO), Cognitive Level and Marks of each question are mentioned at the right margin.

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1. Consider the following simplified description of a Bus Garage Repairs System. **Construct** Data Flow Diagrams (DFDs) upto level 1. [CO3,C4, Marks:10]

"Buses come to a garage for repairs. A mechanic and helper perform the repair, record the reason for the repair and record the total cost of all parts used on a Shop Repair Order. Information on labor, parts and repair outcome is used for billing by the Accounting Department, parts monitoring by the inventory management computer system and a performance review by the supervisor."

2. Consider the following component description of an e-commerce system. **Construct** a UML component diagram for the system. [CO3,C4, Marks:12]

"A License Status application is intended to show license status and is manifested (implemented) by license_status.exe artifact. License Services Java component implements License Service interface and could be used by other Java applications or services. License Status application uses License Services .Net component through the License Service interface implemented by this component. The License Services Net component uses HASP.Net API provided by HASP.Net Runtime component which is part of Sentinel HASP product. License Services Java component uses HASP Java Native Interface Proxy to communicate with HASP Java Native Interface component, both components provided by Sentinel. When product is used in Microsoft Windows, the HASP Java Native Interface could be manifested by either HASPJava.dll (32 bit OS), HASPJava_x64.dll, or HASPJava_ia64.dll (64 bit OS)."

3. Consider the following simplified description of a web application deployment. **Construct** a deployment diagram for the system. [CO3,C4, Marks:12]

"A community club web application artifact community_club_app.war is deployed on Catalina Servlet / JSP Container which is part of Apache Tomcat web server. The community_club_app.war artifact manifests (embodies) OnlineOrders component. The artifact contains three other artifacts, one of which manifests UserServices component. The Application Server device (computer server) has communication path to Database Server device (another server). Web application archive artifact community_club_app.war contains several files, folders and subfolders. Stereotypes file and library are standard UML stereotypes applicable to artifacts."

4. Each of the following scenarios represents a specific user interface design golden rule. **Identify** the specific golden rule for each scenario as well as **justify** your answers. [CO3,C3, Marks:6]

a. "A set of applications (products) should implement the same design rules."

b. "The normal users should not aware about operating system, file management functions and other technology used in the system etc."

c. "Accomplish a system function (e.g. alt + P to invoke print function), the mnemonic should tied up with the option in such a way that it is easy to remember. e.g : 'P' for print."