United International University (UIU)
Dept. of Computer Science & Engineering (CSE)

Final Exam, Trimester: Fall 2022
Course Code: CSI 321/CSE 3421, Course Title: SOFTWARE ENGINEERING
Total Marks: 40, Duration: 2 hours
Any examinee found adopting unfair means will be expelled from the trimester/ program as per UIU disciplinary rules.
(Answer All Questions)

1. (a) Explain the golden rules for UI design considerations. How they are followed in Facebook web application? [CO1] 4+4

   (b) Consider that, your team lead has assigned you to develop a software which will collect user's personal information without taking permission. Which of the principles of ACM code of ethics are violating in the above case. Explain in detail. [CO3]

2. You have been assigned to develop a ML based analytics software for e-commerce websites. 4+4

   (a) Explain the requirement engineering process for the above scenario. [CO1]

   (b) What should we include in the SRS, architectural documentation, user-end, and marketing documentation for the above scenario? [CO1]

3. (a) Explain how we can implement the MVC architecture for a simple web application for CGPA calculation where user will provide marks of each and every subject of the students. [CO2] 4+4

   (b) Differentiate between Virtual Machine and Docker with necessary illustrations. [CO2]

4. (a) Explain the properties of a secure software in the context of UCAM. [CO1] 4+4

   (b) Explain SDK and API. How data is represented in JSON format? Explain with example. [CO2]

5. Describe the critical path and critical node in project management. Find out the critical path for the following table. Also find out Early Start, Early Finish, Late Start, Late Finish of all the nodes using CPM. [CO3] 8

Node	Duration (week)	Precedence
A	2	-
B	5	A
C	3	A
D	4	B
E	4	B, C
F	6	D, E
G	4	E
H	3	G, F