



United International University (UIU)
Department of Computer Science & Engineering
Final Exam, Summer 2019 (192)
Course Code: CSI 321, Course Title: Software Engineering
Total Marks: 40, Duration: 2:00 hours
Please answer all the questions.

1. Please briefly answer the following questions: (2 marks x 11 questions = 22 marks) 22
 - (a) What are the levels of Capability Maturity Model Integration (CMMI)
 - (b) What are the advantages of Model-View-Controller (MVC) design pattern?
 - (c) Draw a diagram representing DevOps lifecycle.
 - (d) What are the roles and responsibilities of a DevOps Engineer?
 - (e) In “the example SRS outline”, provided by “IEEE 29148-2018 standard”, what are the sub-sections of “requirements” section?
 - (f) What are the steps for the process of composing user documentation?
 - (g) Considering ISO/IEC 12207 standard, what are the primary lifecycle processes?
 - (h) Which aspects are to be considered for stopping the testing process?
 - (i) Define various types of acceptance testing.
 - (j) Briefly describe white-box testing.
 - (k) Briefly describe unit testing.

2. Suppose, in the planning meeting of XYZ Company, a project manager requested a team to initiate the development of a transport management system. The system is based on three-tier architecture. Developers should follow an agile process. Users can access the system through any smart device like a phone, tab, laptop, desktop etc. The system comprises of the following features:
 - List of busses
 - List of routes
 - Seat plan for every bus
 - Schedule of busses
 - Schedule of drivers
 - Ticket management
 - Parking management
 - Passenger management

Considering the above scenario,

 - (a) Please draw the architectural diagram (of the complete system) following three-tier architecture. 3
 - (b) Please draw all the detailed wireframe models representing schedule of drivers. 5

3. According to “IEEE-CS/ACM Joint Task Force on Software Engineering Ethics and Professional Practices”, software engineers shall adhere to some principles. Among these principles, please describe the following principles:
 - (a) Product 5
 - (b) Management 5