



NATIONAL SCHOOL OF BUSINESS MANAGEMENT

BSc (Hons) Software Engineering (PU) – 20.3

BSc (Hons) Computer Networks (PU) – 20.3

BSc (Hons) Computer Security (PU) – 20.3

Year 01 Semester 02 Examination

10 September 2021

SE103.3 – Systems Analysis and Design

Instructions to Candidates

- 1) **Answer All Questions.**
- 2) **Time allocated for the examination is five (05) hours (Including downloading and uploading time).** Please type your answer unless a diagram is required. Diagrams can be handwritten and attached as a figure.
- 3) Weightage of Examination: 60% out of final grade
- 4) Download the paper, provide answers to the selected questions in a word document.
- 5) Please upload the document with answers (Answer Script) to the submission link before the submission link expires
- 6) Answer script should be uploaded in PDF Format
- 7) Under any circumstances E-mail submissions would not be taken into consideration for marking. Incomplete attempt would be counted as a MISSED ATTEMPT.
- 8) The Naming convention of the answer script – Module Code_Subject name_Index No
- 9) You must adhere to the online examination guidelines when submitting the answer script to N-Learn.
- 10) Your answers will be subjected to Turnitin similarity check, hence, direct copying and pasting from internet sources, friend's answers etc. will be penalized.

Answer all the questions based on below case study.

Express Delivery Courier Service

As an employee of a large international courier and shipping service, Samson Dias met with many companies that shipped and received packages almost daily. Samson was frequently asked if his company could deliver local packages on the same day. Over several months, he observed that there appeared to be a substantial need for courier services in the city in which he lived. He decided that he would form his own courier delivery company called Express Delivery to fill this need.

Samson began by listing his mobile telephone number in the Rainbow Pages. He also sent letters to all those companies that had requested same-day courier service that his prior company had not served. He hoped that, through good service and word-of-mouth advertising, his business would grow. He also began other advertising and marketing activities to promote his services.

After being in business only a few short months, Samson hired another person to help with the delivery and pickup of packages. He is now maintaining a central warehouse to organize and distribute packages for delivery because he could no longer “warehouse” the packages out of his delivery van. Thus, Samson is now looking to hire another person at the warehouse to coordinate the arrival and distribution of all the packages.

At first, Samson received delivery requests on his business mobile phone. However, it was not long before his customers asked if he had a Web site where they could place orders for shipments, make payments, and track the order status. He knew that if he could get a Web presence, he could increase his exposure and help his business grow further.

Samson’s brother Mike and his friend are undergraduates majoring in information systems. They were looking for a project idea for one of their assignments. Then two of them decided to work together and develop a system to help Samson keep track of all his courier service activities.

Question 01:

(25 marks)

Designers have decided to partition the system into subsystems to work according to an iterative approach.

- 1) Divide the system into possible two (02) separate components or subsystems, which can be developed in **two iterations**. You can make assumptions to build the answer. Briefly describe each subsystem. (10 marks)
- 2) Create a Work Breakdown Structure that lists all the steps to complete the **first iteration**. Put a time estimate on each step. (15 marks)

Question 02:

(25 marks)

- 1) As per the information given in the case study, Identify the stakeholders for Express Delivery system. For each type of stakeholder, describe aspects of the Express Delivery system that are of particular interest. (10 marks)
- 2) What is/are the possible technique/s to be used to collect requirements from these stakeholders? Justify your selection. Make a list of five (05) questions you need to be answered. (15 marks)

Question 03:

(25 marks)

- 1) Consider systems that are that you are aware of similar to the Express Delivery system's domain. Based on them, identify the possible functional requirements for the Express Delivery system. (12 marks)
- 2) Describe the non-functional requirements of this system. (08 marks)
- 3) What are the hardware requirements of this system? (05 marks)

Question 04:

(25 marks)

- 1) During designing the Express Delivery system, designers plan to use Data Flow Diagrams, Use Case Diagrams, and ER Diagrams. Explain the requirement of using each type of diagram for different aspects of system designing. You **should not draw** any diagram for your answer. (09 marks)
- 2) Considering the functional requirements identified for the Express Delivery system in question 03 part 01, draw four (04) user interfaces. Your answer should not include a login page or signup page. (16 marks)

END OF THE PAPER