



**RAJARATA UNIVERSITY OF SRI LANKA
FACULTY OF APPLIED SCIENCES**

**B.Sc. in Applied Sciences
Second Year - Semester I Examination – June/ July 2022**

COM 2301 - SYSTEM ANALYSIS AND DESIGN

Time: Three (03) hours

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- This paper contains **FOUR (04)** questions on **THREE (03)** pages.
 - The total maximum mark attainable is eighty (80). The marks assigned for each question and section, thereof are indicated in square brackets.
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1. (a) Describe how major changes in business and technology will increase the amount of resources (time and money) spent on a system by the end of its life. (04 marks)
- (b) Describe why strategic managers work in a highly uncertain decision making environment. (04 marks)
- (c) Describe how Use Case modeling will be used in the Waterfall model. (04 marks)
- (d) Briefly describe the purpose of a probing question. (02 marks)
- (e) Briefly describe how the interviewer might lose the control of the interview during Open-ended questions. (02 marks)
- (f) Describe how the interviewer might miss important ideas when using Closed-ended questions. (02 marks)
- (g) Briefly describe what is validity and reliability in a questionnaire. (02 marks)

2. (a) Describe how the measurability of non-functional requirements is going to affect the testing phase of a project. (04 marks)
- (b) Briefly describe why Domain requirements suffer from the “implicitness” problem. (04 marks)
- (c) Describe how problems with the natural language are going to affect open-ended questions in an interview. (04 marks)
- (d) Describe a disadvantage of using graphical notations (e.g.: UML) compared to using natural language during requirements validation. (04 marks)
- (e) Briefly describe why requirements errors are difficult to fix than implementation errors. (04 marks)
3. (a) Describe the issues that may arise if important stakeholders are not identified during a project. (04 marks)
- (b) Describe what happens if different stakeholders have conflicting requirements. (04 marks)
- (c) Briefly describe types of volatile requirements. (04 marks)
- (d) Briefly describe how functional cohesion is related to coupling. (04 marks)
- (e) Briefly describe how having an explicit architecture will help in communicating with the stakeholders. (02 marks)
- (f) Briefly Describe the difference between a module and a sub-system. (02 marks)
4. (a) “People make mistakes” is a known human factor in UI design. Describe how it affects the error handling procedure in a software system. (03 marks)
- (b) “People are different” is a known human factor in UI design. Describe how it affects taking inputs from the users using natural language. (03 marks)
- (c) Briefly describe two (02) advantages of GUIs. (02 marks)
- (d) Briefly describe the concept of “user familiarity” in GUI design. (02 marks)
- (e) Describe two (02) project management activities. (04 marks)
- (f) Briefly describe two (02) reasons why scheduling problems happen. (02 marks)
- (g) Briefly describe the activities in risk planning. (02 marks)
- (h) Describe why task dependencies should be minimized in project scheduling. (02 marks)

END