



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

**B.Sc. (General) Degree in Information and Communication Technology
Second Year - Semester I Examination – September/ October 2019**

ICT 2402 - SOFTWARE ENGINEERING

Time: Three (03) hours

INSTRUCTIONS TO CANDIDATES

- Answer **ALL** questions.
 - The total maximum mark attainable is 100. The marks assigned for each question and section, thereof are indicated in brackets.
 - This is a closed book examination.
 - Mobile phones or any other communication devices are not permitted.
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1. a) Briefly describe what **portability** is. (3 marks)
- b) Briefly describe what **Legacy Challenge** is. (3 marks)
- c) Briefly describe what **CASE tools** are. (3 marks)
- d) Briefly describe what **Software** is. (1 marks)
- e) Assume that you have to develop a software system. You have four months to develop and in the feasibility report, it is estimated that you do not have the human resource to finish the system within the given time. Discuss your suggested course of action to finish the project within the given deadline instead of abandoning the project? (5 marks)
- f) Briefly describe two (02) problems that may arise when using Prototyping during system development. (5 marks)
2. a) It is said that "Requirements should be both complete and consistent". Briefly explain what is meant by **complete** and **consistent** in the above statement within quotes. (4 marks)
- b) Briefly explain why, when documenting non-functional requirements, they should be measurable. (2 marks)
- c) Briefly describe **Requirements traceability** and its categories. (5 marks)
- d) Describe the reasons behind the following statement.
"Adding people to a late project makes it later because of communication overheads". (4 marks)
- e) Briefly describe what a **"Static analyzer"** is. (3 marks)
- f) Briefly describe what a **"validation testing"** is. (2 marks)

3. a) Describe two (02) reasons why it might not be possible to appoint ideal people to work on a project. (4 marks)
- b) Name the three (03) risk management strategies. (3 marks)
- c) Why does the program's structure degrade with time? (3 marks)
- d) Describe the situations in which **Adaptive maintenance** will be applied. (4 marks)
- e) In "Legacy system categories", what do you understand by the term "**Low quality, low business value**"? (4 marks)
- f) What is the evolution strategy for systems categorized as "**Low quality, low business value**"? (2 marks)
4. a) Describe two (02) advantages of **System re-engineering**. (4 marks)
- b) Briefly describe the main disadvantage of the following interaction styles (ways in which humans interact with programs). (4 marks)
- c) Assume that you are developing an e-learning software for pre-school children (age 3-4 years). Briefly describe the Human factors that you may need to consider when designing user interfaces. (8 marks)
- d) Briefly describe two (02) reasons why the User Interface design is critical for the success of a software. (4 marks)
5. a) Briefly describe the importance of **Collective ownership** of the code. (3 marks)
- b) Describe why Extreme Programming maintains "**Design for change**" to be not useful. (3 marks)
- c) Briefly describe the following terms in configurations management. (3 marks)

- d) Briefly describe two (02) software pricing factors. (4 marks)
- e) There is a software cost estimation technique known as "**Pricing to win**". Briefly discuss the disadvantages of this approach for a contractor organization. (3 marks)
- f) Briefly explain two (02) disadvantages of counting the **lines of code** as a measure of productivity? (4 marks)

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