

## RAJARATA UNIVERSITY OF SRI LANKA FACULTY OF APPLIED SCIENCES

## B.Sc. in Information Technology Second Year - Semester I Examination – June/ July 2022

## **ICT 2402 - SOFTWARE ENGINEERING**

Time: Three (03) hours

## INSTRUCTIONS TO CANDIDATES

- This paper consists of FIVE (05) questions on THREE (03) pages including this page.
- This is a closed book examination.
- Mobile phones or any other communication devices are not permitted.

- 1. a) Briefly describe how the **portability** of a software affects the maintenance cost. (04 marks)
  - b) Explain how the programming language selection decision (when developing a software) will affect the Legacy Challenge. (04 marks)
  - c) Briefly describe how CASE tools help to achieve dependability in software.
    (04 marks)
  - d) Briefly describe why heterogeneity is challenge with regard to software development. (02 marks)
  - e) Describe why requirements will be compromised when using COTS components.
    (02 marks)
  - f) Briefly describe why it is better to use cowboy coding to test a programming idea instead of using the waterfall model test it. (04 marks)
- 2. a) Describe how documentation is related with the visibility of a software development project. (04 marks)
  - b) It is said that "Requirements should be both complete and consistent". Explain how the requirement completeness and consistency affects the project schedule. (04 marks)
  - c) Briefly describe requirements traceability affects the legal issues originating from the project contract. (04 marks)
  - d) Describe the two (02) domain requirement problems. (04 marks)
  - e) Briefly describe how lack of clarity with requirements will affect the **requirements** traceability. (04 marks)
- 3. a) Describe how organizational and political factors will affect the requirement analysis.

  (04 marks)
  - b) Describe how the requirements adaptability is connected with component cohesion levels. (04 marks)
  - c) "Requirements are inevitably incomplete and inconsistent".

    Explain two (02) reasons to justify the above statement. (04 marks)
  - d) Describe the situations in which Preventive maintenance will be applied. (04 marks)
  - e) Describe how loosely coupling will help with maintenance. (04 marks)

4.	a)	cost while reducing the long-term costs. Explain how this happens.	short-term (04 marks)
	b)	Describe why software needs to be tested to see how it fails.	(04 marks)
	c)	Briefly describe two (02) reasons why the User Interface design is crit success of a software.	ical for the (04 marks)
	d)	Briefly describe what is known as dead code.	(02 marks)
	e)	Briefly describe the effects of memory leak in a program.	(02 marks)
	f)	Explain what is shown in the V-model of development.	(02 marks)
	g)	According to the V-model of development, name the project documentation used as basis for the testing plans.	on which is (02 marks)
5.	a)	In a Use case diagram, what would be the impact of missing certain use case	s. (03 marks)
	b)	Describe how path testing is conducted.	(03 marks)
	c)	Briefly how risk analysis step is conducted.	(02 marks)
	d)	With regard to maintenance cost factors, describe the reasons that affect stability.	ts the team (04 marks)
	e)	Describe two (02) UI design principles.	(04 marks)
	f)	Explain the difference between functional and non-functional requirements.	(04 marks)
END			