



Manipal Institute of Technology

MANIPAL

(A constituent unit of MAHE, Manipal)

V SEMESTER B. TECH. (COMPUTER SCIENCE AND ENGINEERING)

MAKEUP EXAMINATIONS, Nov-Dec 2019

SUBJECT: SOFTWARE ENGINEERING [CSE 3104]

REVISED CREDIT SYSTEM

(24/12/2020)

Time: 3 Hours

Max. Marks: 50

Instructions to Candidates:

- Answer **ALL** questions & missing data may be suitably assumed.

- 1.A. Differentiate between Program versus Product 2M
- 1.B. Explain with diagrams the terms Abstraction and Decomposition which are deployed by Software Engineering to overcome Human Cognitive Limitations 4M
- 1.C. With the help of a diagram explain the Prototyping model of software development. 4M
- 2.A. Describe the importance of an SRS document. 4M
- 2.B. A library membership management software (LMS) should support the following three options—new member, renewal, and cancel membership. When the new member option is selected, the software should ask the member's name, address, and phone number. If proper information is entered, the software should create a membership record for the new member and print a bill for the annual membership charge and the security deposit payable. If the renewal option is chosen, the LMS should ask the member's name and his membership number and check whether he is a valid member. If the member details entered are valid, then the membership expiry date in the membership record should be updated and the annual membership charge payable by the member should be printed. If the membership details entered are invalid, an error message should be displayed. If the cancel membership option is selected and the name of a valid member is entered, then the membership is cancelled, a choke for the balance amount due to the member is printed and his membership record is deleted. 4M
- For the given problem statement
- a. Give any TWO functional requirements.
- b. Draw a decision tree and decision table.
- 2.C. What do you understand by an iconic interface? List the advantages and disadvantages of Iconic interface. 2M
- 3.A. Write down the context diagram, level-1 DFD and data dictionary for the TIC-TAC-TOE software. 4M
- 3.B. Develop UML Class diagram for a software that we have been assigned to develop to manage a library. Each member has a name, date of birth, address, phone number and email Each journal has a name, the ISBN code, the subject areas, the shelf where it is located and the editor. Each editor has a name and a nationality. A journal may cover issues in several subject areas. It is important to store the order of appearance of areas, since these indicate their relative importance for the journal. It is important to keep track of the date on which each journal has been borrowed, returned, disappeared, and the user carrying out the operation. 4M
- 3.C. Draw the structure chart for the software which computes root mean square 2M
- 4.A. Explain issues of good software design in terms of fan-in and fan-out. 5M

- 4.B. Explain different team structures in project management. 5M
- 5.A. What are the different program coverages in white-box testing? Explain. 5M
- 5.B. Explain the critical path method with an example. 5M