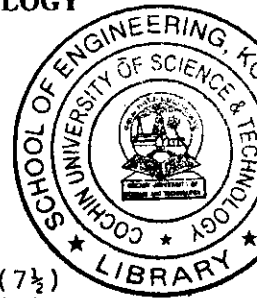


IT 303 PROGRAMMING TECHNIQUES AND PRACTICES

Time : 3 Hours

Maximum Marks : 100

(Answer all Questions)

- I. A. (a) Given two programs doing the same function, how will you compare them and choose the better one? (7½)
(b) What do you understand by 'control structures'? (5)
- OR
- I. B. What is meant by 'system life cycle'? In the context of Software Engineering, what is the importance of this concept? (12½)
- II. A. (a) With usual notations, describe the terms data type, data object and data structure. (8)
(b) What are user-defined data types? Give examples. (4½)
- OR
- II. B. (a) Taking a programming language of your choice, explain the basic data types and the range of values that can be represented. (7½)
(b) In the above language, what features are available to represent data structures? (5)
- III. A. (a) Explain the terms: Dry run, Design walk through. (8)
(b) What is the importance of egoless programming? (4½)
- OR
- III. B. (a) Compare and contrast top down design and bottom-up design. (8)
(b) When do you opt for recursive algorithms? (4½)
- IV. A. (a) How is readability related to maintainability of programs? (8½)
(b) What is the use of 'stubs'? (4)
- OR
- IV. B. (a) Explain the term: Interactive debugging. (6)
(b) What are the features available for debugging in the programming system that you are using? (6½)
- V. A. Describe the complete process of the software implementation after the design. (12½)
- OR
- V. B. What is the role of a compiler in software development process? Explain. (12½)
- VI. A. Describe any three software utilities that are useful in software development process. (12½)
- OR
- VI. B. Write short notes on :
(i) Macroprocessors (4½)
(ii) Preprocessors (4)
(iii) Trace generators (4)
- VII. A. Suggest some methods to specify programming logic. Explain. (12½)
- OR
- VII. B. How are control structures represented in flow charts? (12½)
- VIII. A. Discuss the desirable features of a good programming language. (12½)
- OR
- VIII. B. What are the features available for communication between modules in the programming language that you use commonly? Explain in detail. (12½)