

IT 303 PROGRAMMING TECHNIQUES AND PRACTICES

Time: 3 Hours

Max.marks:100

- I-A a) Suggest some guidelines that help to maintain a good programming style, giving special emphasis on coding style and efficiency 6¹/₂
- b) Give suitable examples to show the equivalence of the common iterative control structures provided in programming languages 6
- OR**
- I-B a) What is meant by 'system life cycle'? Elaborate. 7¹/₂
- b) Illustrate the importance of program specification. 5
- II-A a) Describe the common data types and their processing techniques supported by general purpose programming languages. 7¹/₂
- b) Give an algorithm to search for an element in a table of n elements. Your algorithm must be efficient. 5
- OR**
- II-B a) Describe the various structures used to arrange data items suggesting means to access data from them. 7¹/₂
- b) Explain the concepts of 'data type' and 'data structure'. 5
- III-A a) Define the term 'data dictionary'. What is its role in a DBMS? What are its features? 12¹/₂
- OR**
- b) Explain the terms: 12¹/₂
- i) catalytic checking
- ii) egoless programming
- iii) walk-through
- IV a)(i) Discuss the importance of software testing. 5
- (ii) Differentiate between testing, debugging and profiling. 7¹/₂
- OR**
- b) Suggest a discipline that could be followed which will ensure the enhanced readability of programs. 12¹/₂
- V a) Explain the different stages of program compilation process. 12¹/₂
- OR**
- b) Classify the possible errors that could occur throughout the lifetime of a program. 12¹/₂
- VI a) Discuss the role of software utilities in improving the productivity of programmers. 12¹/₂
- OR**
- b) What are the major services provided by a typical operating system? 12¹/₂
- VII a)(i) Suggest a possible structure for a decision table. What is its use? 10
- (ii) How many columns a decision table built for n statements (maximum) can have? 2¹/₂
- OR**
- b) Suggest a reasonable scheme for implementing a decision table. 12¹/₂
- VIII a) Describe the desirable features of a general purpose high level programming language. 12¹/₂
- b) Explain the terms: 12¹/₂
- (i) Time sharing (ii) Multiprogramming
- (iii) Multiprocessing.

