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Roll No.

322353(22)

B. E. (Third Semester) Examination, April-May 2021

(New Scheme)

(CSE Engg. Branch)

COMPUTATIONAL SCIENCE

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Attempt all questions. Part (a) of each question is compulsory. Solve any two from (b), (c) and (d).

Unit-I

1. (a) What are Design Notations? 2
- (b) Explain module design criteria with suitable example. 7

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- (c) Describe decision table with its application in program design. 7
- (d) Explain desirable features and various design issues in programming language design. 7

Unit-II

2. (a) Define translators as programming language processor. 2
- (b) Explain syntax and semantics in a programming language with example. 7
- (c) What are the various types of bindings in a program? Explain binding and their binding times with example. 7
- (d) Write short notes on : 7
- (i) Storage management
- (ii) Abstract data types.

Unit-III

3. (a) Define functional programming language. 2

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- (b) Describe LISP as a fPL in detail. 7
- (c) Give an example of fPL using a program to compute factorial of a given number. Compare it with an imperative language program. 7
- (d) Describe applications of fPL in detail. 7

Unit-IV

4. (a) Define an artificial neuron. 2
- (b) What are activation functions? Explain various types of activation functions in detail. 7
- (c) Explain auto-associative memory using neural network in detail. 7
- (d) Explain single layer and multilayer feed forward neural network. 7

Unit-V

5. (a) What do you mean by fuzzy logic? 2
- (b) Explain fuzzy to crisp conversion in detail. 7

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- (c) Explain working principle of Genetic Algorithm. 7
- (d) Write short notes on : 7
- (i) Mutation
 - (ii) Fuzzy set operation