TCS 504

Roll No. | | | | | | | | | | |

Odd Semester Examination, 2019-20

B.Tech (CSE, Semester V)

Principle of Programming Languages

Time: 3 Hours **Total Marks: 100**

Total no. of printed pages: 1

Note: **(i)** **Attempt ALL questions all Questions carry equal marks.**
(ii) **In case of numerical problems assume data wherever not provided.**
(iii) **Be precise in your answer.**

Q.1. Attempt ***any four*** parts of the following: (5 × 4 = 20)

(a) Explain the different characteristic of programming language? Explain the different types of programming language.

(b) What are the major factors that affect development and evolution of programming language methodologies?

(c) Define software simulated computer.

(d) What is syntax and semantics in programming language?

(e) What do you mean by translator? Explain its structure and operation.

(f) Discus structures and operations of translators.

Q.2. Attempt ***any four*** parts of the following: (5 × 4 = 20)

(a) What are sequence control? Discuss their implementation?

(b) Discuss concurrent executions?

(c) Define subprogram and programmer defined data types.

(d) Explain in detail encapsulation, information hiding and abstraction.

(e) Explain exception handling by taking a suitable example?

(f) Differentiate between implicit and explicit sequence control.

Q.3. Attempt ***any two*** parts of the following: (10 × 2 = 20)

(a) Write short notes on data control reference environments.

(b) Explain the following:

i) Static storage management.

ii) Heap- based storage management

iii) Stack – based storage management

(c) What is heap? Explain how heap can be used to implement storage management. In this context explain the most suitable data structure to implement heap such that garbage collection and removal of dangling references is carried out effectively.

Q.4. Attempt ***any two*** parts of the following: (10 × 2 = 20)

(a) Discuss the different stages in translation with suitable examples.

(b) Define co routines and scheduled subprograms.

(c) What is Object Oriented Programming? Compare the object description of C++ and Java.

Q.5. Attempt ***any two*** parts of the following: (10 × 2 = 20)

(a) Explain in detail encapsulation, information hiding and abstraction.

(b) What do you mean by formal syntax and semantics? Differentiate between data flow language and object oriented language.

(c) Define the following terms:

i) Implicit and Explicit sequence control

ii) Referencing environment