R17 Regulation *Subject code:1P5EB*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A' Grade)

B.Tech III Year I Semester Supplementary Examinations, December 2021

PRINCIPLES OF PROGRAMMING LANGUAGES

(Computer Science and Engineering)

Maximum Marks: 70 ***Date: 29.12.2021*** Duration: 3 hours

Part-A

All the following questions carry equal marks (10x2M=20 Marks)

1 Write about pure interpretation?

2 Define preprocessor.

3 Write about static array?

4 In what way reserved words are better than keywords?

5 List the design issues of functions.

6 Write about co-routines?

7 Define light weight tasks & heavy weight tasks.

8 Draw the flow diagram of task states?

9 Define strict & non strict programming language.

10 Define functional & imperative languages.

Part-B

Answer All the following questions. (5X10M=50Marks)

11 Explain in detail about various language implementation methods. (10M)

OR

12 A) Explain the concept of ambiguous grammar and unambiguous grammar by considering following CFG & string. (5M)

<assign> -> <id>=<expr>

<id> -> A|B|C

<expr> -> <expr>+<term>|<term>

*<term> -> <term> *<factor> |<factor>*

<factor> -> (<expr>)|<id>

String: A=B+C*A

B) List & explain reasons to study programming languages. (5M)

13 Describe arithmetic expressions with the help of design issues. (10M)

OR

14 A) Explain associative arrays & records (discuss design issues if any). (5M)

B) Explain relational & Boolean expressions with appropriate examples. (5M)

15 Explain in-detail about generic subprograms & show how generic programs are implemented in various popular programming languages. (10M)

OR

16 A) How multidimensional arrays can be passed as subprogram parameters, explain with relevant examples. (5M)

B) Describe pass-by-result, pass-by-value-result and pass by reference with suitable examples. (5M)

17 A) Explain abstract Data types in **C++.** (5M)

B) Explain abstract Data types in **Java.** (5M)

OR

18 Describe subprogram level concurrency by discussing design issues. (10M)

19 A) Explain **python's** classes & instances variables with examples. (5M)
B) Classify **python's** objects & explain each with an example. (5M)

OR

20 A) List & explain the methods of ***LISTS*** with an example for each method. (5M)

B) Can stack &queue be implemented using ***LISTS***? Explain with relevant examples. (5M)