

III B. Tech I Semester Supplementary Examinations, October/November- 2019
PRINCIPLES OF PROGRAMMING LANGUAGES

(Computer Science and Engineering)

Time: 3 hours

Max. Marks: 70

- Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)
 2. Answering the question in **Part-A** is compulsory
 3. Answer any **THREE** Questions from **Part-B**
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PART -A**(22 Marks)**

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| 1. | a) | Define syntax and semantics of a language. | [3M] |
| | b) | Write any two design issues for evaluating arithmetic expressions. | [4M] |
| | c) | Outline the problems associated with aliasing. | [4M] |
| | d) | List the advantages and disadvantages of dynamic local variables. | [4M] |
| | e) | Write the importance of Meta Language declaration statements. | [4M] |
| | f) | List various applications of multi paradigm languages. | [3M] |

PART -B**(48 Marks)**

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| 2. | a) | A concise and understandable description of a programming language is essential to the language's success. Justify the validity of the statement. | [8M] |
| | b) | Write the recursive procedures for any grammar using recursive descent parser. List out the limitations of it. | [8M] |
| 3. | a) | Explain the scope and lifetime of variables. Illustrate when they would coincide and when they don't. | [8M] |
| | b) | Discuss the evaluation procedure for static scope and dynamic scope. | [8M] |
| 4. | a) | Demonstrate the need of Co-Routines with an example. | [8M] |
| | b) | Explain the significance of nested subprograms with examples. | [8M] |
| 5. | a) | Define monitor. Explain how cooperation synchronization and competition synchronization are implemented using monitors. | [8M] |
| | b) | Discuss the reasons for using exception handlers in a programming language. | [8M] |
| 6. | a) | Discuss various primitive functions in Scheme. | [8M] |
| | b) | Demonstrate how functions are defined in Scheme? | [8M] |
| 7. | a) | Explain how PROLOG is different from other logic programming languages? Give an example for each feature. | [8M] |
| | b) | Discuss Terms and Goal statements in Prolog with examples. | [8M] |
