

III B. Tech I Semester Supplementary Examinations, May - 2018
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**

- |   |    |                                                              |      |
|---|----|--------------------------------------------------------------|------|
| 1 | a) | What are general purpose languages? Give some examples.      | [3M] |
|   | b) | Write a brief note on aliases.                               | [4M] |
|   | c) | Differentiate between procedures and functions.              | [4M] |
|   | d) | Explain about cooperation synchronization with monitors.     | [4M] |
|   | e) | Define domain set and range set w.r.to functional languages. | [3M] |
|   | f) | Define declarative semantics.                                | [4M] |

**PART -B**

- |   |    |                                                                                                                                |      |
|---|----|--------------------------------------------------------------------------------------------------------------------------------|------|
| 2 | a) | Explain different phases of compilation.                                                                                       | [8M] |
|   | b) | Discuss about language recognizers and language generators.                                                                    | [8M] |
| 3 | a) | Explain about evaluation of static scope and dynamic scope.                                                                    | [8M] |
|   | b) | Write notes on coercion expressions and short-circuit evaluation.                                                              | [8M] |
| 4 | a) | Discuss about pass-by-result and pass-by-value-result parameter passing methods, with a detailed programming example for each. | [8M] |
|   | b) | Write about generic subprograms in Ada and C++.                                                                                | [8M] |
| 5 | a) | Explain different design issues for object oriented languages.                                                                 | [8M] |
|   | b) | Write about event handling in Java.                                                                                            | [8M] |
| 6 | a) | Write about functional forms in LISP.                                                                                          | [8M] |
|   | b) | What are the applications of functional languages? Give a comparison between functional and imperative languages.              | [8M] |
| 7 | a) | Explain about first-order predicate calculus.                                                                                  | [8M] |
|   | b) | Discuss about fact statements and rule statements in Prolog.                                                                   | [8M] |

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