

USN

| | | | | | | | | | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

CMRIT LIBRARY
BANGALORE - 560 037

10CS/IS666

Sixth Semester B.E. Degree Examination, June/July 2018
Programming Languages

Time: 3 hrs.

Max. Marks:100

**Note: Answer FIVE full questions, selecting
at least TWO questions from each part.**

CMRIT LIBRARY
BANGALORE - 560 037

PART - A

- 1 a. What makes a programming language successful? (07 Marks)
- b. Define binding and binding time. Mention the different times at which decisions may be bound. (05 Marks)
- c. Explain stack based storage allocation mechanism, with neat labeled sketch. (08 Marks)
- 2 a. Explain eight principal categories of control flow mechanism. (08 Marks)
- b. Define tail-recursive function. Explain its importance with an example. (07 Marks)
- c. Why ordering is important within expressions? (05 Marks)
- 3 a. Explain composite types. Define composite type. (08 Marks)
- b. Explain Mark-and-Sweep and Stop-and-Copy garbage collection. (06 Marks)
- c. Define the following with an example: (06 Marks)
 - (i) Dangling reference
 - (ii) Sets
- 4 a. Explain the calling sequence to maintain a stack layout, with prologue and epilogue subroutines. (10 Marks)
- b. Explain different parameter passing modes. (10 Marks)

PART - B

- 5 a. Explain the important issues in initialization and finalization. (08 Marks)
- b. Explain the following : (12 Marks)
 - (i) Abstract classes.
 - (ii) Virtual and non virtual methods.
 - (iii) Multiple inheritances.
- 6 a. Explain the purpose of the cut(!) in Prolog. How does it relate to \+? (07 Marks)
- b. Explain the following with respect to the logical programming: (08 Marks)
 - (i) Unification.
 - (ii) Resolution.
- c. Explain normal order evaluation with example. (05 Marks)
- 7 a. Explain the motivation for concurrency. (06 Marks)
- b. What is non blocking algorithm? Explain its advantages. (08 Marks)
- c. What is semaphore? Explain how binary semaphore is differs from general semaphore. (06 Marks)
- 8 a. Explain the contracts between the Java Virtual Machine (JVM) and common Language Infrastructure (CLI). (08 Marks)
- b. What is binary rewriting? Explain its uses. (07 Marks)
- c. What is Just-in-time (JIT) compiler? What are the advantages of JIT compiler? (05 Marks)

CMRIT LIBRARY
BANGALORE - 560 037

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.