

2019

MSc

2nd Semester Examination

COMPUTER SCIENCE (COMPILER DESIGN)

PAPER – COS-202(M2)

Full Marks : 25

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their
Own words as far as practicable.

Illustrate the answers wherever necessary.

(Turn Over)

1. Answer any **TWO** questions:

2x2=4

- a) What is cross compiler?
- b) What do you mean by code optimization?
- c) Define symbol table.
- d) What is an operator precedence parser?

2. Answer any **TWO** questions:

2x4=8

- a) DAG.
- b) Phases of compiler.
- c) Implementation of three address code.
(Quadruples, Triples and indirect triples)
- d) Loader and linker.

3. Answer any **ONE** question:

1x8=8

a) Show that the following grammar

$S \rightarrow Aa/bAc/Bc/bBa$

$A \rightarrow d$

$B \rightarrow d$

Is LR(1) but not LALR(1)

- b) The following grammar is not suitable for a top down predictive parser. Identify the problem and correct it by rewriting the grammar. Show that your grammar satisfies LL(1) condition by building LL(1) parsing table for it.

$$P \rightarrow Ra/Qba$$

$$R \rightarrow aba/caba/Rbc$$

$$Q \rightarrow bbc/bc$$

Also, Parse the input string "cababca" using LL(1) parsing table.

[Internal Assessment: 5 Marks]