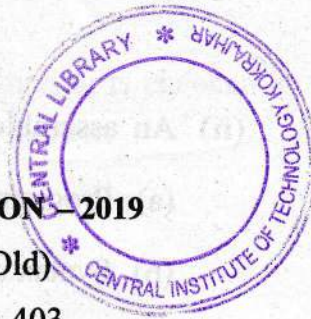


Total No. of printed pages = 8



RETEST EXAMINATION - 2019

Semester : 4th (Old)

Subject Code : Co-403

SYSTEM PROGRAMMING

Full Marks - 70

Time - Three hours

The figures in the margin indicate full marks
for the questions.

Instructions :

1. Questions on PART - A are compulsory.
2. Answer any *five* questions from PART - B.

PART - A

Marks - 25

1. Choose the correct alternatives : $1 \times 10 = 10$
 - (i) In the case of Zero-address instruction method the operands are stored in
 - (a) Registers
 - (b) Accumulators
 - (c) Push down stack
 - (d) Cache

[Turn over

(ii) An assembler is

- (a) Programming language dependent
- (b) Syntax dependent
- (c) Machine dependent
- (d) Data dependent

(iii) The last statement of the source program of an assembly language should be

- (a) Stop
- (b) Return
- (c) OP
- (d) End

(iv) An imperative statement

- (a) reserves areas of memory and associates names with them
- (b) indicates an action to be performed during execution of assembled program
- (c) indicates an action to be performed during optimization
- (d) None of the above



(v) Grammar of the programming is checked at _____ phase of compiler.

- (a) Semantic analysis
- (b) Syntax analysis
- (c) Code optimization
- (d) Code generation

(vi) TII stands for

- (a) Table of incomplete instructions
- (b) Table of information instructions
- (c) Translation of instructions information
- (d) Translation of information instruction

(vii) The linker

- (a) is similar to interpreter
- (b) uses source code as its input
- (c) is required to create a load module
- (d) None of the mentioned above.



(viii) Compiler should report the presence of _____ in the source program, in translation process.

- (a) Classes
- (b) Objects
- (c) Errors
- (d) Text

(ix) After actual locations for main storage are known, a _____ adjusts relative addresses to these actual locations.

- (a) Relocating loader
- (b) Locating loader
- (c) Default loader
- (d) None of these

(x) In _____ loader, relocation is done by Assembler.

- (a) Absolute
- (b) Relative
- (c) Both (a) and (b) above
- (d) None of the above

112/Co-403/SP(O)

(4)



2. Fill up the blanks :

1×10=10

(a) In single pass translation, the problem of forward reference is tacked using a process called _____.

(b) Mnemonic represent _____.

(c) Assembler works in _____ phases.

(d) Lexical analysis breaks up a program into _____.

(e) A macro call result in macro _____.

(f) Full form of LC is _____.

(g) In _____ phase of an assembler, isolate the label, mnemonic operation code and operand fields of a statement.

(h) A single pass assembler scans the program only _____.

(i) _____ uses FIFO and _____ uses LIFO.

(j) In compiler, each phase may consist of a number of _____.

112/Co-403/SP(O)

(5)

[Turn over

3. Write true or false :

1×5=5

- (a) Symbol table is generated in synthesis phase of an assembler. 3
- (b) In macro, return statement is written at the end of the macro. 3
- (c) Direct linking loader is a relocatable loader. 3
- (d) Compiler can check syntax error. 3
- (e) In immediate addressing, operand is part of instruction. 3

PART - B

Marks - 45



- 4. (a) Differentiate between assembly language and high level language. 3
- (b) Illustrate with examples declarative and assembler directive statement. 3
- (c) What are stacks? How are they different from queues? 3

112/Co-403/SP(O) (6)

5. (a) Give a brief description of instruction set. 3

- (b) Explain any one addressing mode with diagram. 3
- (c) What are the components of a macro? Give an example. 3

6. (a) What are the different types of macro expansion? Explain in brief. 3

- (b) What are the functions of analysis phase of an assembler. 3
- (c) Write about forward reference. 3

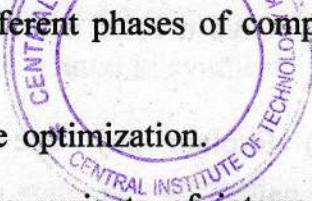
7. (a) What are the data structures used in two pass translation of an assembler. 3

- (b) Give the syntax of three numbers of advanced assembler directives. 3
- (c) Write the functions of a loader. 3

8. (a) Write about linker 3

- (b) Explain absolute loader in brief. 3
- (c) Discuss program relocatability. 3

112/Co-403/SP(O) (7) Turn over

- 
9. (a) What are the different phases of compiler ? 3
(b) Write about code optimization. 3
(c) Compare the two variants of intermediate code for imperative statement. 3

10. Write short notes on any *three* : 3×3=9

- (a) Top down parsing
(b) Bootstrapping
(c) Single pass assembler
(d) Register
(e) Conditional assembly macro.