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SF-7067

B. E. - III (Sem. - VI) (Comp. Info. Tech.) Examination

May/June – 2011

Language Processor

Time : 3 Hours] [Total Marks : 100

Instructions :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ B. E. - III (SEM. - VI) (COMP. ENGG./ INFO. TECH.)

Name of the Subject :

☛ LANGUAGE PROCESSOR

☛ Subject Code No. : 7 0 6 7 ☛ Section No. (1, 2,.....) : 1&2

Seat No. :

Student's Signature

(2) Use separate answer sheet for each section.
(3) Give example(s) if necessary.
(4) Numbers on the right indicate marks.

SECTION - I

1 A Do as directed

1	Enlist the four major functions of the loader.	2
2	"Symbol table is created at the end of pass two of 2-pass assembler' Comment on the validity of the statement.	2
3	In _____ parameter, ordinal position is immaterial and they are useful where long list of parameters have to be used.	1
4	_____statement is used for unconditional transfer of control.	1
5	Value of expansion time variable can be manipulated using preprocessor statement _____.	1
6	Define Compiler and interpreter.	2
7	What will following macro statement do? AIF (L' &A EQ 1) .NEXT	1

B Construct NFA using Thompson's notation for the following regular expression and then convert into to DFA: **10**
a*(a/b/c)aac*

2 A Draw the flowchart for first pass of 2-pass assembler and discuss the data structures used. **10**

B Explain the meaning of relocation with respect to loader, and briefly explain the various relocation schemes. **5**

OR

A Draw the flowchart for a nested macro-preprocessor and discuss the data structures used. **10**

B Discuss briefly the following loader schemes: **5**
Overlays
Dynamic binders

3 Answer any **three** of the following **15**

1 Explain different kinds of parameters used in macro definition.

2 Explain how forward references are handled in 2-pass assembler.

3 Write a LEX specification that selects only lines that end or begin with the letter 'a', delete everything else.

4 Discuss error handling in 2-pass assembler

SECTION - II

4 A. Answer the Following. 10
1.Define Following terms. (each carry 2 marks)
a) Compiler b) shift-reduce parser
2. What do the L,R,K means in LR(K)? (2 mark)
3. Give Conditions for LL(1) grammar. (3 mark)
4. Explain cross-compiler. (1 mark)

B. Construct SLR Parsing Table for the following Grammar. 10

E→E+T
E→T
T→T*F
T→F
F→(E)
F→id

5 A Give the "Triple" & "Quadruple" for the 05
a:=b*c+d

B Construct LALR Parsing Table for the following Grammar. 10

S→AA
A→aA
A→b

OR

B Show that following Grammar is LL(1) or not. 10

S→AaAb|BbBa
A→ε
B→ ε

6 Attempt Any Three. 15
1. Explain any 2 phases of complier.

2.Find the FIRST & FOLLOW from the following grammar.

S→iEtSS'|a
S'→eS| ε
E→b

3.Explain with example left-recursive grammar & how we remove it.

4. Explain Compiler Construction Tools.
5.Explain any two methods for code optimization.