



RM-7067

B. E. III (Sem. VI) (CO) (IT) Examination

May / June - 2010

Language Processor

Time : 3 Hours]

[Total Marks : 100

Instructions :

(1)

नीचे दशावलि निशानीवाणी विगतो उत्तरवडी पर अवश्य लभवी.
Fillup strictly the details of signs on your answer book.

Name of the Examination :

Name of the Subject :

Subject Code No. : Section No. (1, 2,.....) :

Seat No. :

Student's Signature

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

SECTION I

Q:1	A	Answer the following	
1		Replacement of a character string by another character string during program generation is called _____ expansion of macro.	1
2		In Macro, _____ statement can alter the flow of execution	1
3		_____ Parameters are useful in situation where a parameter has the same value in most calls and having standard assumption in the absence of an explicit specification by the programmer.	1
4		Formal parameter can also appear in the <i>label</i> and <i>opcode</i> field of model statement. True/False?	1
5		Expansion of nested macro calls follows the last-in-first-out (LIFO) rule. True/False?	1
6		If loader do not perform relocation, i.e. load origin = linked origin, such loaders are called _____.	1
7		If linked origin \neq translated origin, relocation must be performed by the _____.	1
8		Give one example of conditional expansion in macro.	1
9		For the following given macro definition, <pre> MACRO CLEAR &X, &N LCL &M &M SET 0 .MORE MOVER AREG, =0' &M MOVEM AREG, &X+&M &M SET &M+1 AIF (&M NE N) .MORE MEND </pre> What will be expansion of macro call CLEAR B,3	2

	B	Construct NFA using Thompson's notation for the following regular expression and then convert into to DFA: 0*10*10*10*	10
Q:2	A	Draw the flowchart for Pass I of two pass assembler and discuss the data structures used.	10
	B	Explain briefly process of backpatching?	5

OR

	A	Draw the flowchart for a nested macro-preprocessor and discuss the data structures used.	10
	B	Compare and contrast "absolute loader" and "compile-and-go loader"	5
Q:3		Answer the following	15
	1	Explain the differences between a macro and a function.	
	2	Discuss error handling in 2-pass assembler	
	3	Write a LEX program to convert uppercase to lower case except comments except for letters inside C-style comments.	
	4	What do you mean by relocation factor? Explain with an example	

SECTION-II

Q.4 A	Define following Terms. 1. Lexeme 2.CFG 3.Ambiguous Grammar 4. Operator Grammar 5. LR(0) items	10
B.	Construct Predictive Parsing Table for the following Grammar. $E \rightarrow E+T T$ $T \rightarrow T*F F$ $F \rightarrow (E) id$	10
Q.5 A	Give "Triple" & "Quadruple" representation for $y=(a+b)*c-d$	05
B	Construct SLR parsing Table for the following Grammar. $S \rightarrow 0S0 1S1 10$	10

OR

B	Show that following grammar is LR(1) or not. $S \rightarrow AA$ $A \rightarrow aA b$	10
Q.6	Attempt Any Three. 1. Write short note on LEX. 2. Check the following grammar is Left recursive or not. If yes, Remove Left recursive. $S \rightarrow A B$ $A \rightarrow Aa \epsilon$ $B \rightarrow Bb Sc \epsilon$ 3. Compute FIRST & FOLLOW from the following Grammar. $S \rightarrow iCtSS' a$ $S' \rightarrow eS$ $C \rightarrow b$	15

	4. Explain Compiler Construction Tools.
	5. Consider the grammar $S \rightarrow (L) a$ $L \rightarrow L, S S$ a) What are the terminals, nonterminals and Start symbol? b) Construct Left most derivation for $(a, (a, a))$. c) Construct Right Most Derivation for (a, a)
