Priyadarshini College of Engineering, Nagpur
Sessional Examination (2022-23) Even Semester
B.Tech. Sixth Semester (Computer Technology) (C.B.C.S.)
Compiler Design

PCE/KS/23/BTCT601T

P. Pages: 2
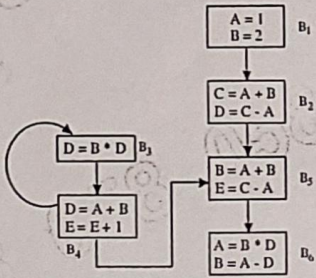
Time: Three Hours

Max. Marks:70

Notes:
1. All questions carry marks as indicated.
2. Solve Question 1 or Question 2.
3. Solve Question 3 or Question 4.
4. Solve Question 5 or Question 6.
5. Solve Question 7 or Question 8.
6. Solve Question 9 or Question 10.
7. Due credit will be given to neatness and adequate dimensions.
8. Assume suitable data wherever necessary.
9. Illustrate your answers whenever necessary with the help of neat sketches.

Q. No.		Question	CO	BT	Marks
1.	a)	What are different compiler construction tools?	CO1	1	6
	b)	Explain the front end phase of compiler with examples.	CO1	2	8
		OR			
2.	a)	What is Cross Compiler? How boot strapping is needed to develop cross compiler?	CO1	1	7
	b)	Explain Code generation phase with suitable example.	CO1	2	7
3.	a)	What is the significance of FIRST () and FOLLOW () in TOPDOWN Parser?	CO2	1	6
	b)	Construct LL(1) parsing table for following CFG $S \rightarrow aIJh$, $I \rightarrow IbSe/c$, $J \rightarrow KLKr/\epsilon$, $K \rightarrow d/ \epsilon$, $L \rightarrow p/ \epsilon$	CO2	3	8
		OR			
4.		Consider the following grammar $S \rightarrow AA$ $A \rightarrow aA$ $A \rightarrow b$ Construct the parsing table using LALR parser.	CO2	3	14
5.	a)	Expain various intermediate code represSentation techniques with example	CO3	2	8
	b)	Show Quadruple , Triple for the following expression . $-(a + b) * (c + d) + (a + b + c)$	CO3	3	6
		OR			
6.	a)	Translate given expression into TAC if x < y then a= b + c else p= q+ "d"	CO3	3	7
	b)	Define Attribute. Explain different types of attributes.	CO3	2	7

Q. No.		Question	CO	BT	Marks
7.		Find IN and OUT for every blocks for the following graph	CO4	3	14
		OR			
8.	a)	What is dominator? How it is used to identify loop in three address code?	CO4	1	6
	b)	Explain the following i) Loop unrolling. ii) Loop Jamming.	CO4	2	8
9.	a)	Explain Register allocation and assignment	CO5	2	7
	b)	Explain error recovery in lexical analysis phase.	CO5	2	7
		OR			
10.	a)	What are the different categories and goals of Error handling?	CO5	1	7
	b)	Explain data structure use for representation of symbol table	CO5	2	7

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