16/5/25

Dr. Vishwanath Karad
MIT WORLD PEACE UNIVERSITY | PUNE
TECHNOLOGY, RESEARCH, SOCIAL INNOVATION & PARTNERSHIPS

PRN: 1032210888

Term End Examination

May/June 2025

3+4+2 +5+2 +4+4+5

CET3011B - System Software and Compiler Design

Question Paper ID: 055519

Faculty/School	School of Computer Science and Engineering	**Term**	Semester VIII
Program	Final Year B.Tech CSE/CSF	**Duration**	**1 hour 30 minutes**
Specialization	-	**Max. Marks**	**40**

LTORG END START ORIGIN

Section - 1 (8 X 5 Marks)
Answer any 8 questions

1	Explain any 5 assembler directives with an example.	**5 marks**	CO1	Applying
2	What is a loader? Explain any two types of loaders with an example. (Compile & Go, Absolute)	**5 marks**	CO2	Applying
3	*Construct the grammar by eliminating left recursion and then find FIRST() and FOLLOW() for the below grammar* S--> A A--> aB | Ad B--> b C--> g A → aB | A' A' → d.	**5 marks**	CO3	Creating
4	Design canonical set of items of CLR for the following grammar below S -->AA A --> aA | b	**5 marks**	CO3	Creating
5	Differentiate between top down and bottom-up parsing techniques.	**5 marks**	CO3	Analysing
6	Estimate three address code for the following statement do {cnt = cnt+1;} while (arr[cnt] < max) ;	**5 marks**	CO4	Evaluating

1 cnt = cnt + 1
2 if arr(cnt) < max goto 1

Compile & Go
Absolute

7	Construct Syntax directed definition for the grammar below and draw annotated parse tree. D -->T L T --> int T --> float L --> L, id L --> id	5 marks	CO5	Creating
8	Explain any five types of semantic errors with example.	5 marks	CO5	Applying
9	Discuss the issues related to the design of a Code Generator.	5 marks	CO6	Analysing
10	Construct Basic block and identify leaders and show the flow graph for the following three address code 1. a = 1 2. b = 1 3. t1 = 10 * a 4. t2= t1+ c 5. t3= 8 * t2 6. t4= t3 - 88 7. arr[t4] = 0.0 8. b = b + 1 9. if b <= 10 goto(3) 10. a = a +1 11. if a <= 10 goto (2) 12. a = 1 13. t5 = b – 1 14. t6 = 88 * t5 15. arr[16]=1.0 16. a= a + 1 17. if a <= 10 goto (13)	5 marks	CO6	Creating

END OF QUESTION PAPER