

Total No. of Questions – [6]

Total No. of Printed Pages: 02

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May 2022 (ENDSEM) EXAM
T.Y./ B. TECH. (SEMESTER - II)
COURSE NAME: System Programming
COURSE CODE: ETUA40181D
(PATTERN 2018)

Time: [1Hr]

[Max. Marks: 30]

(* Instructions to candidates:

- 1) Figures to the right indicate full marks.**
- 2) Use of scientific calculator is allowed**
- 3) Use suitable data where ever required**

Question No.	Question Description	Marks	CO mapped	Blooms Taxonomy Level
Q.1	a) Illustrate Interpreter with its components.	[4]	CO 4	Remembering
	b) Consider “d = a + b * 2;” and show the output of each phase of compiler with suitable diagram.	[6]	CO 4	Applying
	OR			
Q.2	a) Illustrate with examples regular expressions to recognize the following: i) Signed and unsigned integer numbers ii) Identifiers	[4]	CO 4	Remembering
	b) Illustrate working of LEX with suitable diagram. Demonstrate with suitable example.	[6]	CO 4	Remembering
Q.3	a) Illustrate YACC with suitable diagram.	[4]	CO 5	Remembering
	b) Consider the Grammar S --> A a A --> a Find their First and Follow sets.	[6]	CO 5	Applying
	OR			
	a) Construct a parse tree for the following grammar: S -> AB	[4]	CO 5	Applying

	$A \rightarrow c/aA$ $B \rightarrow d/bB$ b) Consider the Grammar: $E \rightarrow TE'$ $E' \rightarrow +TE' \mid \epsilon$ $T \rightarrow FT'$ $T' \rightarrow *FT' \mid \epsilon$ $F \rightarrow id \mid (E)$ $*\epsilon$ denotes epsilon Find their First and Follow sets.	[6]	CO 5	Applying
Q. 5	a) Illustrate three address code with an example. b) Demonstrate the use of code optimization with suitable example. <p style="text-align: center;">OR</p> a) Demonstrate the role of peephole optimization in Compilation process b) Illustrate the use of object code in compiler design	[4] [6] [4] [6]	CO 6 CO 6 CO 6 CO 6	Remembering Applying Applying Remembering