

G.R. No.	
----------	--

DECEMBER 2021 - ENDSEM EXAM
B. TECH. (E & TC) (SEMESTER - I)
COURSE NAME: System Programming
COURSE CODE: ETUA40181D
(PATTERN 2018)

Time: [1 Hour]

[Max. Marks: 30]

Instructions to candidates:

- 1) Answer Q.1 OR Q.2, Q.3 OR Q.4, Q.5 OR Q.6.
- 2) Figures to the right indicate full marks.
- 3) Use of scientific calculator is allowed
- 4) Use suitable data where ever required

Q.1) a) Illustrate Input Buffering with two examples. [4]

Q.1) b) Compare Language Processing activities. [6]

OR

Q.2) a) Demonstrate with suitable examples. [4]

i) Bootstrapping ii) Lexical Error

Q.2) b) Illustrate phases of Compiler with block diagram. [6]

Q.3) a) Construct Predictive Parse Table for the grammar: [4]

$E \rightarrow E+T/T$

$T \rightarrow T * F / F$

$F \rightarrow (E) \mid id$

and parse the string $id+id*id$

Q.3) b) Construct LR(0) items for the following Grammar: [6]

$S \rightarrow L = R$ [L1, 10M]

$S \rightarrow R$

$L \rightarrow *R$

$L \rightarrow id$

R->L

OR

Q.4) a) Evaluate FIRST and FOLLOW for the following Grammar. [4]

S->xABC [L3, 5M]

A->a | bbD

B->a | ϵ

C->b | ϵ

D->c | ϵ

Q.4) b) Consider the grammar [6]

S->xABC

A->a | bbD

B->a | ϵ

C->b | ϵ

D->c | ϵ

Construct predictive parsing table.

Q.5) a) Demonstrate [4]

i) Role of peephole optimization in compilation process

ii) Use of machine idioms with any two examples.

Q.5) b) Illustrate dynamic programming code generation with suitable example. [6]

OR

Q.6) a) Illustrate: [4]

i) Different forms in target program

ii) Dead-code elimination with example

Q.6) b) Interpret use of registers in Machine dependent issues. [6]