Nirma University

Institute of Technology

Class Test Aug-2021

B.Tech. in Computer Engineering, Semester -VII

2CS701/IT794 – Compiler Construction

Time: 1 Hour 15 Min | Max Marks: 35

Q-1 Trace the Compilation phases for the following statement: [4]

statement: Area = Pi*r*r

Q-2 Find first and follow for the following grammar. [4]

S → ACB | CbB | Ba

A → da | BC

B → g | ε

C → h | ε

Q-3 Design the Recursive Descent Parser for the following grammar. [6]

bexpr → bexpr or bterm | bterm

bterm → bterm and bfactor | bfactor

bfactor → not bfactor | (bexpr) | true | false

Q-4 Consider the following Grammar: [7]

S → E + S | E

E → num

Answer following questions with proper justification

i) Is the Grammar ambiguous?

ii) Is the Grammar LL(1)?

Q-5 Eliminate Left recursion, and apply left factoring and check following grammar is LL(1) or not? [7]

S → Ba | b | cd

A→ Ac | Sd | ε

B → Ae | e | Sf

Q-6 Trace suitable error recovery to identify syntax errors in input "id + * id " for the following LL(1) parsing table. [7]

	id	+	*	(	)	$
E	TE_R			TE_R		
$\boldsymbol{E_R}$		$+TE_R$			ε	ε
T	FT_R			FT_R		
$\boldsymbol{T_R}$		ε	$*FT_R$		ε	ε
F	**id**			(E)		