

Department of Computer Science & IT
The Islamia University of Bahawalpur

BS (CS) – Morning 7th

Subject: Compiler Construction

Marks 35

Time: 90 min.

Q2.	Short questions	
	a) Define a Context Free Grammar? Give an example	5
	b) Define Ambiguous Grammar? Give an example.	5
	c) Give the formal definition of Regular Expression? Give an example	5
	d) Consider the language $\{ 0^n 1^n \mid n > 0 \}$. Construct a CFG of this language.	5
		(20)
Q3.	Write a left-associative CFG for the Arithmetic operations (Addition - Subtraction- Multiplication - Division). Using this CFG create a parse-tree for the expression: $9 * 3 + 30 / 10$	(10)
Q4.	$\Sigma = \{a, b\}$ Consider the following Regular Expressions: $(a.b \mid a)^*$ Write the complete formal description of the constructed FA.	(5)

Department of Computer Science & IT
The Islamia University of Bahawalpur

BS (CS) – Morning 7th

Subject: Compiler Construction

Marks 35

Time: 90 min.

Q2.	Short questions	
	a) Define a Context Free Grammar? Give an example	5
	b) Define Ambiguous Grammar? Give an example.	5
	c) Give the formal definition of Regular Expression? Give an example	5
	d) Consider the language $\{ 0^n 1^n \mid n > 0 \}$. Construct a CFG of this language.	5
		(20)
Q3.	Write a left-associative CFG for the Arithmetic operations (Addition - Subtraction- Multiplication - Division). Using this CFG create a parse-tree for the expression: $9 * 3 + 30 / 10$	(10)
Q4.	$\Sigma = \{a, b\}$ Consider the following Regular Expressions: $(a.b \mid a)^*$ Write the complete formal description of the constructed FA.	(5)