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<tr><td rowspan="2"></td><td colspan="2">ADAMAS UNIVERSITY
END SEMESTER EXAMINATION
(Academic Session: 2020 – 21)</td></tr>
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ADAMAS UNIVERSITY PURSUE EXCELLENCE	**ADAMAS UNIVERSITY** **END SEMESTER EXAMINATION** (Academic Session: 2020 – 21)		
Name of the Program:	M.Tech	**Semester:**	II
Paper Title:	Principles of Programming Language	**Paper Code:**	CSE21820
Maximum Marks:	50	**Time Duration:**	3 Hrs
Total No. of Questions:	**17**	**Total No of Pages:**	2
(Any other information for the student may be mentioned here)	1. At top sheet, clearly mention Name, Univ. Roll No., Enrolment No., Paper Name & Code, Date of Exam. 2. All parts of a Question should be answered consecutively. Each Answer should start from a fresh page. 3. Assumptions made if any, should be stated clearly at the beginning of your answer.		

<table>
<tr><th colspan="4">Group A
Answer All the Questions (5 x 1 = 5)</th></tr>
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	Group A **Answer All the Questions (5 x 1 = 5)**		
1	What is names and types?	**R**	**CO1**
2	What do you understand by orthogonality?	**R**	**CO2**
3	Define context free grammer.	**U**	**CO3**
4	List down non-terminals that identify BNF grammatical categories.	**U**	**CO4**
5	Write any programming language that belong from logic programming paradigm.	**U**	**CO5**
	Group B **Answer All the Questions (5 x 2 = 10)**		
6 a)	i)What is the working principle behind the lexical analyser? ii)How can you say a program is reliable or not?	**R**	**CO1**
	(OR)		
6 b)	i) Write down the rules when A CFG is CNF. ii)In CNF how many terminals are present at right side of production rule?	**R**	**CO1**
7 a)	Describe the concept that describe about a structurally correct program.	**U**	**CO2**
	(OR)		
7 b)	Write the differences between Parse tree and Abstract Syntax Tree.	**U**	**CO2**
8 a)	Consider g1={S->AB, S->c, A->a,B->b} Is the above grammer satisfy the rules for CNF.	**Ap**	**CO3**
	(OR)		
8 b)	Explain the concept of function call with the help of any code.	**U**	**CO3**
9 a)	Describe Activation Records.	**R**	**CO4**
	(OR)		
9 b)	Describe the differences between arguments and parameters.	**U**	**CO4**
10 a)	Describe concurrent programming paradigm with an example.	**U**	**CO5**
	(OR)		
10 b)	What are the two interesting and distinguishing features of logic programs?	**U**	**CO5**
	Group C **Answer All the Questions (7 x 5 = 35)**		

11 a)	i)When a grammar is said to be ambiguous? Explain with the help of an example. ii)Write down some roles of study programming languages?	**R**	**CO1**
	(OR)		
11 b)	i) Consider the statement int y=3.36. What type of error it is? ii)What is the use of Regular Expression?	**U**	**CO1**
12 a)	"Language designers have a basic vocabulary about language structure, meaning and pragmatic concerns." Explain the major categories fall under *principles* of language design.	**U**	**CO2**
	(OR)		
12 b)	Briefly describe the concept that express CFG.	**U**	**CO2**
13 a)	Describe the key characteristics of an ideal programming language.	**U**	**CO3**
	(OR)		
13 b)	Explain the concept of *by reference* parameter passing mechanisms.	**U**	**CO3**

14 a)	Consider the following sequence of statements, which are syntactically valid but no semantically correct:
	    j=0;
	    i=3/j;
	    for(i=1; i>-1;i++)
	        i--;
	How are these situations handled when executed Java program?
		Ap	**CO4**

	(OR)		
14 b)	Explain the Horn clauses in terms of Resolution and Unification.	**U**	**CO4**

15 a)	Consider the following logic program.
	  speaks(allen, russian).
	  speaks(bob, english).
	  speaks(mary, russian).
	  speaks(mary,english).
	  talkswith(Person1, Person2):-speaks(Person1,L),
	  speaks(Person2, L),Person1\=Person2.
	  Choose the facts and rule from the above code.
		Ap	**CO4**

	(OR)		
15 b)	Describe the concept of Interprocess Communication.	**U**	**CO4**
16 a)	What are the synchronization strategies for concurrency?	**U**	**CO5**
	(OR)		
16 b)	Describe the concept of visibility and information hiding.	**U**	**CO5**
17 a)	Describe all the concepts of Control Flow Semantics.	**U**	**CO5**
	(OR)		
17 b)	Explain all the states of thread control. And also explain the situation when more than one execution context can be active.	**U**	**CO5**