INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad -500 043

INFORMATION TECHNOLOGY

ASSIGNMENT QUESTIONS

Course Name	:	**Principles of Programming Languages**
Course Code	:	A40511
Class	:	II B. Tech II Semester
Branch	:	Information Technology
Year	:	2016 – 2017
Course Faculty	:	Mrs.B.Dhanalaxmi,Associate Professor,IT

OBJECTIVES

To meet the challenge of ensuring excellence in engineering education, the issue of quality needs to be addressed, debated and taken forward in a systematic manner. Accreditation is the principal means of quality assurance in higher education. The major emphasis of accreditation process is to measure the outcomes of the program that is being accredited.

In line with this, Faculty of Institute of Aeronautical Engineering, Hyderabad has taken a lead in incorporating philosophy of outcome based education in the process of problem solving and career development. So, all students of the institute should understand the depth and approach of course to be taught through this question bank, which will enhance learner's learning process.

S. No.	Question	Blooms Taxonomy Level	Course Outcome
	UNIT - I		
1	**Compute** the weakest precondition for each of the following simple assignment statements and post conditions. a) a=2*(b-1)-1{a>0} b) b=(c+10)/3 {b>6} c) a=a+2*b-1 {a>1} d) X=2*y+x-1 {x>11}	Apply	1
2	**Give** some reasons why computer scientist and professional software developers should study general concepts of language design and evaluation.	Understand	2
3	**Write** reasons for the statement: "Exception handling is very important, but often neglected by programming languages".	Apply	2
4	**Write** reasons for the statement: "A programming language can be compiled or interpreted". Give relative advantages and disadvantages of compilation and interpretation. Give examples of compiled and	Apply	1

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	interpreted languages.		
5	**State** the given grammar is ambiguous. <assign> -><id>=<expr> <id>->A|B|C <expr>-><expr>+<expr> |<expr>*<expr> |(<expr>).	knowledge	1
6	**Write** BNF notation for following: a) For loop b) If-else condition c) Structure definition	Apply	2
	UNIT - II		
1	**List** what advantages does java's break statement have over C's and C++'s break statement.	knowledge	3
2	**State** whether static binding is more reliable or dynamic binding. Explain why.	knowledge	3
3	**Give** an example of a language used for structural type equivalence and name type equivalence approach.	Understand	3
4	**Give** suitable examples of Ada programming language for arithmetic expressions	Understand	3
5	**Write** an Ada Code to swap two variable values.	Apply	4
6	**Give** an employee record details in COBOL language.	Understand	4
	UNIT - III		
1	**Discuss** generic subprograms in C++ and java.	Understand	4
2	**Give** an example Lua code which shows the importance of "Quasi Concurrency".	Understand	5
3	**Compare** the parameter passing mechanisms of ALGOL and ADA.	Evaluate	5
4	**Give** suitable examples to differentiate subprograms and coroutines.	Understand	4
5	**Define** shallow and deep binding for referencing environment of subprograms that have been passed as parameters.	knowledge	5
6	"The design considerations of parameter passing plays a major role in a sub program block", **Support** on the statement.	Evaluate	5
	UNIT - IV		
1	**Discuss** how dining philosopher's problem and producer consumer problem are solved using concurrency in Ada.	Understand	5
2	**Describe** the cooperation synchronization and competition synchronization in message passing.	knowledge	6
3	**Compare** the parameter passing mechanisms of ALGOL and ADA.	Evaluate	5
4	**Explain** how Smalltalk messages are bound to methods. When does this take place?	Understand	6
5	**Give** a C# code to find the factorial of a number.	Understand	5
6	**Discuss** the different prepositions of PROLOG language.	Understand	6
	UNIT - V		
1	**Explain** the Procedural abstraction in PYTHON language	Understand	6
2	**Discuss** PYTHON data types with suitable examples.	Understand	7

S. No.	Question	Blooms Taxonomy Level	Course Outcome
3	**Write** features of Haskell that makes very different from schema	Apply	6
4	**List** the ways in which ML is significantly different from scheme.	knowledge	7
5	**Elaborate** on the phrase “Type Inference is supported in ML language”.	Create	7
6	**Describe** the scoping rule in common LISP, ML and HASKELL	knowledge	7

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