Program: **Information Technology**
Curriculum Scheme: Rev2019
Examination: SE Semester III
Course Code:ITC305 and **Course Name**: Paradigms and Computer Programming Fundamentals
Time: 2 hour 30 minutes   **Max. Marks:** 80
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Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1	1. Which one from the options would return False for given prolog program? boy(john,123). girl(jane,234). student(john,123).
Option A:	girl(jane,x).
Option B:	boy(,123).
Option C:	student(john,123).
Option D:	girl('john',234).
2	What is the use of '=' in prolog programming?
Option A:	unification
Option B:	arithmetic evaluation
Option C:	reduction
Option D:	recursion
3	What is the use of 'is' in prolog programming?
Option A:	unification
Option B:	arithmetic evaluation

Option C:	reduction
Option D:	recursion
4	Which is not the feature od static type system
Option A:	Faster execution
Option B:	better error checking
Option C:	flexible
Option D:	Easier to read and maintain
5	A style of building programs that expresses logic of computation without talking about its control flow is
Option A:	Parallel processing
Option B:	Imperative programming
Option C:	Declarative Programming
Option D:	object oriented
6	**Which of the following is a predicate second(X,List) which checks whether X is the second element of List .** 1) Second(X,[X|T]). Second(X,[H|T]):-member1(X,T). 2) second(a,[_,X_]). second(X,[_|T]) :- second(X,T) 3) member1(X,[X|T]). member1(X,[H|T]):-member1(X,T). 4) member2(_,[X|T]). member2(_,[H|T]):-member1(X,T).
Option A:	Option 1
Option B:	Option 2
Option C:	Option 3
Option D:	Option 4
7	Stack Based allocation used follows
Option A:	LIFO

Option B:	FIFO
Option C:	arbitrary
Option D:	Random
8	_____ says expressions are not evaluated until their results are needed by other computations.
Option A:	Regular Expression
Option B:	Postfix evaluation
Option C:	Lazy evaluation
Option D:	Unification
9	Which of the following list comprehensions results in a list containing the integers from 1 upto 4 and including 4?
Option A:	[b `div` 2 | b <- [1..10], b `rem` 2 == 1]
Option B:	[c + 1 | c <- [1..10], c < 4]
Option C:	[a | a <- [1..10], a < 5]
Option D:	[b `div` 2 | b <- [1..10], b `div` 2 == 1]
10	Print numbers from 1 to 20 except 13, 15 or 19
Option A:	[x | x <- [1..], x /= 13, x /= 15, x /= 19]
Option B:	[x | x <- [1..20], x /= 13, x /= 15, x /= 19]
Option C:	[x | x <- [1..20], x != 13, x != 15, x != 19]
Option D:	[x | x <- [1..20], x /= 13,15,19]
Q2 (20 Marks)	**Solve any Two Questions out of Three 10 marks each**
1	Define Resolution in prolog and make a resolution for the following statements. **Butch is a killer.** **Mia and Marsellus are married.**

	Zed is dead. **Marsellus kills everyone who gives Mia a footmassage.** **Mia loves everyone who is a good dancer.** **Jules eats anything that is nutritious or tasty.** **Quarry or Target ?Marsellus kills everyone**
2	Discuss Inheritance and its types with example.
3	Discuss Difference between static and dynamic binding in C++.
Q3 (20 Marks)	**Solve any Two Questions out of Three 10 marks each**
1	How to create a thread in Java? Explain the following methods with example: run(), start().
2	What is synchronization, Write a program to explain the thread synchronization in java.
3	Differentiate between the Thread class and Runnable interface for creating a Thread?
Q4 (20 Marks)	**Solve any Two Questions out of Three 10 marks each**
1	Discuss the states in the lifecycle of a Thread with the help of diagram.
2	What is inheritance in object oriented programming? Write a program for multilevel inheritance.
3	What is a higher order function. List any five higher order functions with example.