Program: BE Information Technology
Curriculum Scheme: Revised 2019
Examination: Second Year Semester III

Course Code: ITC305 Name: Paradigms and Computer Programming Fundamentals

Time: 40 Min Max. Marks: 40
1] All questions are Compulsory
2] Assume suitable data wherever required

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MCQ_SECTION

Q1.	**Choose the correct option for following questions. All the Questions are compulsory and carry equal marks**
1.	What is a programming paradigm?
Option A:	Method to do some task.
Option B:	Approach to solve problem using some programming language
Option C:	Approach to solve some problem
Option D:	Method to write program
2.	Which of the following is the advantage of declarative languages over imperative languages?
Option A:	Can use abstract data type
Option B:	Easy to verify the properties of the program
Option C:	Can be strong-typed
Option D:	Can be implemented by an interpreter or compiler
3.	A language is statically typed if the type of a variable is checked during _____
Option A:	Compile time
Option B:	Run Time
Option C:	Program writing Type
Option D:	Load Time
4.	What formal system provides the semantic foundation for Prolog?
Option A:	Predicate calculus

Option B:	Hoare logic
Option C:	Lambda calculus
Option D:	Propositional logic
5.	In Scheme language, which of the following is not a higher-order function?
Option A:	map
Option B:	apply
Option C:	member
Option D:	compose
6.	Which of the following language follow declarative programming paradigm?
Option A:	JAVA
Option B:	C++
Option C:	C
Option D:	Prolog
7.	Identify type for Input and output of given function func:: Num a -> [a] ->a
Option A:	Input-Num,Output-List
Option B:	Input-list,Output-Num
Option C:	Input-Num,Output-Num
Option D:	Input-List,Output-List
8.	Which of the following is not Storage Allocation mechanisms for Object lifetimes
Option A:	Static
Option B:	Heap
Option C:	Stack
Option D:	Dynamic
9.	A template is a blueprint or formula for creating
Option A:	Event
Option B:	Generic Class
Option C:	Program
Option D:	Function

10.	Critical section is that part of code where
Option A:	Data is shared
Option B:	There is no data present
Option C:	There are libraries
Option D:	Where there is preprocessing directories
11.	Which is not the feature of static type system
Option A:	Faster execution
Option B:	Better error checking
Option C:	flexible
Option D:	Easier to read and maintain
12.	Which of the following is disadvantage of prolog
Option A:	Sometimes input and output is not easy.
Option B:	Doesn't need a lot of programming effort.
Option C:	Search is recursion based.
Option D:	It has built in list handling.
13.	The script that runs on user's computer is called as
Option A:	Server side script
Option B:	Client side script
Option C:	User code
Option D:	Serverlet code
14.	Syntax for creating thread using JAVA Thread class
Option A:	class MyThread{ }
Option B:	class MyThread implements Thread{ }
Option C:	class MyThread extends Thread{ }
Option D:	class MyThread extends Runnable {}

15.	Mutual exclusion is
Option A:	All Thread executing together
Option B:	Only one Thread or process can enter into critical section
Option C:	No thread executing
Option D:	Only exclusive threads executing
16.	Print all numbers from 1 to 100 which is divisible by 2 ?
Option A:	filter even [1..100]
Option B:	even [1..100]
Option C:	filter(even [1..100])
Option D:	filter[1..100]even
17.	Which of the following is a mechanism by which object acquires the properties of another object?
Option A:	Encapsulation
Option B:	Polymorphism
Option C:	Inheritance
Option D:	Abstraction
18.	Which of the following is a garbage collection technique for automatically deallocates heap storage?
Option A:	First fit
Option B:	Copying
Option C:	Space management model
Option D:	Best fit
19.	Thread is also called as _____
Option A:	Light weight process
Option B:	Heavy weight process
Option C:	Medium weight process
Option D:	Strong Process

20.	Which operator is used to get an element out of a list by index
Option A:	##
Option B:	&&
Option C:	!!
Option D:	$$

DESCRIPTIVE_SECTION

Time: 1.20 Hrs. **Max. Marks: 40**

Attempt all questions.

Q2.	**Solve any four** **5 marks each**
A)	Briefly describe the process of resolution in logic programming.
B)	What is a subroutine calling sequence? What does it do?
C)	Explain the concept and types of polymorphism
D)	Describe the Prolog search strategy.
E)	Demonstrate Lazy Evaluation with an example?

Q3	**Solve any Two** **10 marks each**
A)	Explain the concept of Multithreading with an Example using JAVA
B)	Explain static and dynamic type checking with example
C)	Write a Haskell function to reverse a list. What is the type of this function?