

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

Course Code: 2.ITC305
Time: 2 hours

Course Name: Paradigms and Computer Programming Fundamentals

Max. Marks: 80

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.	Which one of the options would return true/yes for the given prolog program? <code>boy(harry,123).</code> <code>girl(lisa,234).</code> <code>student(harry,123).</code>
Option A:	?- girl(lisa,x).
Option B:	?- boy('harry',123).
Option C:	?-student (lisa,123).
Option D:	?-student (123,lisa).
14.	The default parameter passing mechanism is
Option A:	Call by value
Option B:	call by reference
Option C:	call by value result
Option D:	None

15.	<p>What is the result?</p> <p>Facts:</p> <p>hobby(stamp).</p> <p>hobby(singing).</p> <p>entertain(dance).</p> <p>entertain(drama).</p> <p>Query:</p> <p>entertain(Z).</p>
Option A:	Z=dance.
Option B:	Z=dance; Z=drama.
Option C:	Z=drama.
Option D:	false.
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.	Which register holds the address for a stack whose value is supposed to be directed at the topmost position?
Option A:	Stack Pointer
Option B:	Stack Register
Option C:	Both a & b
Option D:	None of the above
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? What is meant by subroutine prologue and epilogue?	
c)	Explain Guards with example in haskell?	
d)	Describe the Prolog search strategy	
e)	Explain Stack Layout?	

Q3	Solve any Two	10 marks each
i.	Demonstrate Lazy Evaluation with an example, how it benefits?	
ii.	What are different storage allocation strategies for an object?	
iii.	Write a Haskell function to reverse a list. What is the type of this function?	