Hall Ticket No.:

NARSIMHA REDDY ENGINEERING COLLEGE
(UGC AUTONOMOUS)

MODEL QUESTION PAPER

III B.Tech I Semester (NR20) Regular Examination, January 2023
PRINCIPLES OF PROGRAMMING LANGUAGE
(CYBER SECURITY, DATASCIENCE, ARTIFICAL INTELLIGENCE & MACHINE LANGUAGES)

Time : 3 hours   **Maximum marks: 75**

Note:
- This question paper contains two parts A and B
- Part A is compulsory which carries 25 marks (1st 5 sub questions are one from each unit carry 2 Marks each & Next 5 sub questions are one from each unit carry 3 Marks). Answer all questions in Part A
- Part B Consists of 5 Units. Answer any one full question from each unit. Each question carries 10 Marks and may have a, b sub questions

Part-A   (25 Marks)
Answer all questions

Q.No		Question	M	CO	BL	PO
1)	a.	Differentiate compiler and interpreter.	2	CO1	L1	PO1
	b.	Define guarded commands?	2	CO2	L4	PO2
	c.	Define local referencing environment	2	CO3	L2	PO2
	d.	Define concurrency	2	CO4	L1	PO1
	e.	List few characteristics of Python language	2	CO5	L1	PO1
	f.	Define Parse trees.	3	CO1	L6	PO2
	g.	Differentiate union and enumeration.	3	CO2	L1	PO5
	h.	Differentiate shallow and deep binding.	3	CO3	L1	PO5
	i.	Define an abstract data type.	3	CO4	L3	PO2
	j.	Give the meaning of scripting language.	3	CO5	L2	PO1

Part-B   (50 Marks)
Answer any five questions
All Questions carry equal Marks

Q.No		Question	M	CO	BL	PO
		UNIT–I				
2)	a.	Draw and explain the flow chart for compilation process	5	CO1	L6	PO1

	b.	Explain about the preconditions and post conditions of a given statement mean in axiomatic semantics	5	CO1	L5	PO2

<div align="center">OR</div>

3)	a.	Describe the steps involved in the language evaluation criteria	5	CO1	L5	PO1
	b.	Explain with an example how operator associatively can be incorporated ingrammars?What are the usesofattributegrammar?	5	CO1	L6	PO1

<div align="center">UNIT–II</div>

4)	a.	Define the following? • Stack Dynamic • Explicit Heap Dynamic • Implicit Heap Dynamic • Static	5	CO2	L4	PO3
	b.	What is aliasing? What are the problems associated with it?	5	CO2	L5	PO1

<div align="center">OR</div>

5)	a.	What are Type conversions, relational and Boolean expressions?	5	CO2	L6	PO1
	b.	Describe how the pointers used in C and C++ with examples?	5	CO2	L6	PO1

<div align="center">UNIT–III</div>

6)	a.	Define sub program? What are the categoriesofsubprograms?	5	CO3	L5	PO4
	b.	Discuss the design issues of subprograms?	5	CO3	L5	PO1

<div align="center">OR</div>

7)	a.	Explainabout coroutines? How co-routines are different from conventionalsubprograms?	5	CO3	L4	PO1
	b.	Differentiate between actual andformalparameters	5	CO3	L3	PO3

<div align="center">UNIT–IV</div>

8)	a.	Explain the difference Physical and logical concurrency?	5	CO4	L2	PO2
	b.	What are three possible levels of concurrency in programs? Explain?	5	CO4	L4	PO1

<div align="center">OR</div>

9)	a.	Explain In detail Cooperation synchronization?	5	CO5	L3	PO1
	b.	Explain the following with respect to LISP: data types,	5	CO4	L3	PO1

			M	CO	BL	PO
		structures and LISP interpreter				
UNIT−V						

10)	a.	Explain in detail
		   i) Common Lisp
		   ii) Haskell
		   iii) ML
			5	CO5	L5	PO2

	b.	Describe the semantics of COND and LET?	5	CO5	L3	PO1
OR						
11)	a.	Write the comparison of functional and imperative languages?	5	CO5	L4	PO4
	b.	Explain the characteristics of scripting languages	5	CO5	L2	PO5

M − Marks   **CO −** Course Outcomes**PO −** Program Outcomes

BL − Bloom's Taxonomy Levels (**L1−**Remembering, **L2−**Understanding, **L3−**Applying, **L4−**Analyzing, **L5−**Evaluating, **L6−**Creating)