

Register No : _____

THE KAVERY ENGINEERING COLLEGE

(An Autonomous Institution)

UG/PG DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2026

First Semester

Computer Science and Engineering

PCST2404 – PRINCIPLES OF PROGRAMMING LANGUAGES

Regulations - 2024

Duration: 3 Hrs.

Maximum: 100 Marks

PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)

Q.No	Questions	BTL	CO	Marks
1.	Define context free grammar with an example.	L1	1	2
2.	Differentiate syntax and semantics with suitable examples.	L2	1	2
3.	What is variable binding? Give an example.	L1	2	2
4.	Explain the concept of garbage collection in programming languages.	L2	2	2
5.	What is parameter passing? List any two methods.	L1	3	2
6.	State the difference between static and dynamic scoping.	L2	3	2
7.	What are monitors in concurrency control?	L1	4	2
8.	Differentiate exception handling and event handling.	L2	4	2
9.	What is lambda calculus?	L1	5	2
10.	List any two applications of Prolog in real-world problem solving.	L2	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

Q.No	Questions	BLT	CO	Marks
11. a	i Explain the evolution of programming languages.	L2	1	8
	i Discuss recursive descent parsing with example.	L2	1	8
	i			
Or				
b	i Describe attribute grammars with a neat example.	L2	1	10
	i Explain bottom-up parsing process.	L2	1	6
	i			
12. a	i Explain scope and lifetime of variables with illustrations.	L2	2	10
	i Write short notes on type conversions with example.	L2	2	6
	i			

Or

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|-----|---|---|---|----|---|----|
| | b | i | Discuss the design issues of arrays and associative arrays. | L2 | 2 | 8 |
| | | i | With suitable examples, explain branching and guarded statements. | L2 | 2 | 8 |
| | | i | | | | |
| 13. | a | i | Explain the different parameter passing mechanisms with examples. | L3 | 3 | 10 |
| | | i | Describe stack and dynamic local variable implementation in | L3 | 3 | 6 |
| | | i | subprograms. | | | |

Or

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| | b | i | Write notes on nested subprograms with block structures. | L3 | 3 | 8 |
| | | i | Discuss the design issues for functions and their implementations. | L3 | 3 | 8 |
| | | i | | | | |
| 14. | a | i | Explain object-oriented constructs with their design issues. | L3 | 4 | 10 |
| | | i | ii) Discuss concurrency control using semaphores with an example. | L3 | 4 | 6 |
| | | i | | | | |

Or

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| | b | i | Explain exception handling mechanisms in object-oriented languages. | L3 | 4 | 8 |
| | | i | Write notes on message passing and thread-based concurrency. | L3 | 4 | 8 |
| | | i | | | | |
| 15. | a | i | Explain the fundamentals of functional programming languages with examples. | L4 | 5 | 10 |
| | | i | Evaluate the Scheme programming features. | L4 | 5 | 6 |
| | | i | | | | |

Or

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|--|---|---|---|----|---|---|
| | b | i | Write a short note on multi-paradigm languages. | L4 | 5 | 8 |
| | | i | Explain the Prolog programming with a sample program. | L4 | 5 | 8 |
| | | i | | | | |
