

14.a)	Distinguish garbage and Dangling pointer reference? Explain about garbage collection	4	2	4	2
b)	Translate the following statement to intermediate code and apply code optimization for that code. $A[L,J]=B[L,J]+C[A[K,L]]+D[I+J]$	6	3	4	2
15.a)	Give the algorithm for code generation and generate the code for the following C statements by assuming three registers. $x=1$ $x=a+b*c/d$ $x=a/b-d*(e+f+h)$	6	2	5	1
b)	Discuss various issues in the design of a code generation.	4	2	5	1
16.a)	What is the use of Input buffering in Lexical Analysis? Explain.	4	1	1	1
b)	Consider the following grammar and construct the predictive parsing table for it. $E \rightarrow E+T \mid T$ $T \rightarrow TF \mid F$ $F \rightarrow F* \mid a \mid b$	6	3	2	2
17.	Answer any <i>two</i> of the following:				
a)	What is 3-address code? Give 3-address code for different language constructs.	5	2	3	1
b)	Explain about machine independent optimization.	5	1	4	1
c)	What is DAG? Construct syntax tree and DAG for the following expressions $((x+y)-((x+y)*(x-y)))+((x+y)*(x-y))$	5	3	5	2

M: Marks; L: Bloom's Taxonomy Level; CO: Course Outcome; PO: Programme Outcome

S. No.	Criteria for questions	Percentage
1	Fundamental knowledge (Level-1 & 2)	58
2	Knowledge on application and analysis (Level-3 & 4)	42
3	*Critical thinking and ability to design (Level-5 & 6) (*wherever applicable)	

