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Question Paper Code : X 67544

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2020

Sixth Semester

Computer Science and Engineering

CS 1352 – PRINCIPLES OF COMPILER DESIGN

(Regulations 2008)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions

PART – A

(10×2=20 Marks)

1. What are the compiler construction tools ?
2. Define sentinels.
3. What is an ambiguous grammar ? Give an example.
4. What is Recognizer ?
5. Write syntax directed translation for declaration statement.
6. Give syntax directed translation for the following statement
Call sum(int a, int b).
7. What is flow graph ?
8. Define peephole optimization.
9. Define – code motion.
10. What is storage organization ? List out the various types of storage organization.

PART – B

(5×16=80 Marks)

11. a) Explain the various phases of compiler with neat diagrams. **(16)**
(OR)
b) i) Explain the use of various compiler construction tools in detail. **(8)**
ii) Write brief note on specification of tokens with suitable examples. **(8)**



12. a) Explain the operator precedence parsing with suitable example.

(OR)

b) Construct the SLR parser and parse the sentence cdd and ccdd for the grammar.
 $S \rightarrow CC, C \rightarrow cC/d.$

13. a) i) Write notes on intermediate languages and Boolean expressions. (8)

ii) Describe in detail of the case statements with importance of advantages. (8)

(OR)

b) Explain the process of back patching in detail with real time operations. (16)

14. a) i) Explain about the issues in the design of code generator. (8)

ii) Illustrate the implementation of stack allocation with an example code. (8)

(OR)

b) i) Explain the DAG representation and construction algorithm in detail. (10)

ii) Write brief note on Target machine. (6)

15. a) i) Explain – various storage allocation strategies. (8)

ii) Explain – parameter passing with suitable example. (8)

(OR)

b) Explain – global data flow analysis with run time environment.
