Avinashilingam Institute for Home Science and Higher Education for Women
(Deemed to be University under Category 'A' by MHRD, Estd. u/s 3 of UGC Act 1956)
Re-accredited with 'A+' Grade by NAAC. Recognised by UGC Under Section 12B
Coimbatore - 641 043, Tamil Nadu, India

Bachelor's Degree Examination – June 2021
VI Semester

Class : III UG **Time : 3 Hours**
Major : Information Technology **Max. Marks: 100**

18BITC29 Compiler Design

Part A **10 x 1 = 10**
Choose the Correct Answer

1. Which computer program accepts the high-level language and converts it into assembly language? CO1 K1
   a. Interpreter b. Linker
   c. Assembler d. Compiler

2. Which tool is used for grouping of characters in tokens in the compiler? CO1 K2
   a. Parser b. Code optimizer
   c. Code generator d. Scanner

3. The output of the lexical analyzer is CO2 K2
   a. string character b. a syntax tree
   c. a set of RE d. a set of tokens

4. In Compiler lexical analyzer is used for? CO2 K2
   a. removing comments b. removing whitespace
   c. breaking the syntaxes in the set of tokens d. All of the mentioned

5. Which part of the compiler highly used the grammar concept? CO3 K1
   a. Code optimization b. Code generation
   c. Parser d. Lexical Analysis

6. Synthesized attribute can be easily simulated by a CO3 K4
   a. LL grammar b. Ambiguous grammar
   c. LR grammar d. None of the above

7. In the compiler, the function of using intermediate code is: CO4 K2
   a. to improve the register allocation
   b. to increase the error reporting & recovery
   c. both a & b
   d. to increase the chances of re-using the machine-independent code

8. A basic block can be analysed by CO4 K1
   a. DAG b. A flow graph
   c. A graph with cycles d. None of the above

9. Substitution of values for names whose values are constant, is done in CO5 K2
   a. local optimization b. loop optimization
   c. constant folding d. None of the above

10. Local and loop optimization in turn provide motivation for CO5 K2
   a. Data flow analysis b. Constant folding
   c. Peephole optimization d. DFA and constant folding

Part B **5 x 6 = 30**

Answer ALL questions

Each answer should not exceed 400 words or two pages

11.a. Write a note on compilation process.	CO1 K3
(or)	
11.b. List out the different types of compiler.	CO1 K4
12.a. Discuss about input buffering.	CO2 K5
(or)	
12.b. Define lexical analyzer generator.	CO2 K3
13.a. What is parse tree? Explain.	CO3 K4
(or)	
13.b. Explain about LR parser.	CO3 K4
14.a. Discuss code generation.	CO4 K5
(or)	
14.b. Write a note on back patching.	CO4 K4
15.a. Discuss about the classification of optimization?	CO5 K5
(or)	
15.b. Explain the concept of local optimization.	CO5 K3

Part C **5 x 12 = 60**

Answer ALL questions

Each answer should not exceed 800 words or four pages

16.a. Briefly explain about interpreter	CO1 K3
(or)	
16.b. Explain in detail about compiler construction tools	CO1 K3
17.a. Summarize specification of tokens	CO2 K4
(or)	
17.b. Explain block semantic of lexical analyzer	CO2 K3
18.a. Discuss parsing techniques	CO3 K4
(or)	
18.b. Write a detailed note on error recovery in LR parser	CO3 K2
19.a. Discuss about peephole optimization	CO4 K5
(or)	
19.b. Explain in detail about intermediate languages	CO4 K3
20.a. Outline the idea of global optimization	CO5 K3
(or)	
20.b. Write a note on copy propagation	CO5 K2

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