



Mahila Vikas Sanstha's

INDRAPRASTHA NEW ARTS COMMERCE & SCIENCE COLLEGE,

AT POST MALWADI, DIST. WARDHA (M.S.)

Accredited 'B' by NAAC

Approved by government
of Maharashtra

Affiliated to Rashtrasant Tukadoji
Maharaj Nagpur University, Nagpur

Recognised by U.G.C New Delhi
under section 2 (f) & 12 (b) of
UGC act 1956

Department of Computer Science

Class: BSc VI Sem

Subject : CC(Paper I)

Question Bank

Unit I

1. Explain working of compiler with reference to its phases.
2. Write notes on the following :
 - (i) Compiler
 - (ii) Interpreter
 - (iii) Assembler
 - (iv) Translator.
3. What is Code Optimization ? Explain with proper example.
4. Explain the function of "Book keeping" in compilation process.
5. Write a note on "Need of Compiler".
6. Explain intermediate code generation phase with example.
7. Write short note on Error Handling.
8. What is Addressing Mode ? Explain any three addressing modes with example.
9. Draw phase diagram of compilation process and give purpose of each block.
10. Why are translators needed ?
11. Explain the process of Error detection and reporting. Give its importance.
12. What are the different phases of Compilers ? Give its diagrammatic representation and explain
13. in brief the functions of each phrase.
14. Explain intermediate code generation with suitable example.
15. What do you mean by symbol table ? How is it managed in the compilation process ?



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Unit II

1. What is parameter transmission ? Explain the following :
 - (i) Call-by-value
 - (ii) Call-by-reference.
2. Discuss salient features of good programming language.
3. Explain basic data structures in brief.
4. What are the types of statement ? Explain simple and compound statement with example.
5. Explain hierarchical structure of programming language.
6. Draw and explain hierarchical structure of programming languages.
7. How is static storage allocation and dynamic storage allocation managed in HLL ? Explain.
8. Explain the following semantic specifications :
 - (i) Interpretive
 - (ii) Translation
 - (iii) Axiomatic definition
 - (iv) Extensible definition
 - (v) Mathematical semantics.
9. List types of arrays. Explain any two.
10. List tokens and give one example of each.
11. Give definition of programming language. What is syntax and symantics of high level language ?
12. What do you mean by lexical analysis ? Explain alphabets and tokens with suitable example.
13. How are record structures defined in higher level language ? Explain with example.
14. Explain the following memory allocation :
 - (i) Stack allocation
 - (ii) Heap allocation.

Unit III

1. What is Finite Automata ? Give the transition function and language recognized by the NFA with example.



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2. Explain various rules of “Thomson Construction ”for converting regular expression to NFA.
3. Show whether the grammar is ambiguous or not :
4. $S \rightarrow aSbS \mid bSaS \mid \epsilon$
5. Convert the regular expression $(a|b)^*a$ into NFA using Thomson construction rules.
6. What is input buffering ? Explain.
7. Explain role of Lexical Analyzer.
8. Draw Parse tree for the following expression :– $id + id * id$.
9. Write a short note on context free grammar
10. What is Regular Expression ?
11. Explain the role of lexical analysis in the process of high level language compilation.
12. Explain the following terms in grammar :
 - (i) Terminals
 - (ii) Start symbols
 - (iii) Nonterminals
 - (iv) Production.
13. Draw the transition diagram for constant and explain it with example.

Unit IV

1. Write a note on “Register allocation and assignment”.



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2. Explain operator precedence parser with suitable example.
3. What is a DAG ? Construct a DAG for the following expression :
$$a + [b * (b - c)] + [(b - c) * d]$$
4. Explain shift reduce parsing with suitable example.
5. What do you mean by Handle Prunning ? Explain.
6. Write short note on Loop Optimization.
7. Explain simple code generator.
8. Explain DAG representation of basic blocks.
9. What is Top Down parsing ? Explain with example.
10. What are the capabilities of a symbol table ?
11. Explain top-down passing for the following grammar :
$$S \rightarrow cAD$$
$$A \rightarrow ab/a.$$
12. What are the contents of symbol table ? Give the structure of symbol table.
13. Discuss Top-Down passing with example.