

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS : B. E.
BRANCH : COMP.SC.

SEMESTER: VI
SESSION : SP/2011

SUBJECT : CP6105 COMPILER DESIGN

FULL MARKS: 60

TIME : 2 HOURS
INSTRUCTION :

1. The question paper contains 7 questions each of 12 marks and total 84 marks.
 2. Candidates may attempt any 5 questions maximum of 60 marks.
 3. The missing data, if any may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got a correct question paper.
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- Q.1(a) Define CROSS Compiler. [2+4+6]
(b) Explain pre processor.
(c) Describe briefly various phases of compilation processes and present the structures of compiler.
- Q.2(a) Explain Call-by-Reference. [2+4+6]
(b) Explain a simple approach used to design of lexical analysis.
(c) Explain the term 'Bootstrapping'. Explain how bootstrapping helps in construct CROSS compiler.
- Q.3(a) What is Context free Grammar? [2+4+6]
(b) Write notes on YACC.
(c) Consider the grammar
 $S \rightarrow aABe$
 $A \rightarrow Abc$
 $A \rightarrow b$
 $B \rightarrow d$
Trace a parser for bottom up (using shift reduce) for an input "abbcde".
- Q.4(a) Discuss advantages of LALR parser over canonical LR parser. [2+4+6]
(b) Write an Algorithm for recursive predictive parser.
(c) Write an Algorithm for Non-recursive Top Down Parser.
- Q.5(a) Discuss the role of syntax analysis. [2+4+6]
(b) Discuss advantages of Bottom up parser over Top Down Parser.
(c) What is activation record? Explain the components of activation record.
- Q.6(a) Compare parse tree with syntax tree. [2+4+6]
(b) Discuss different types Intermediate Code.
(c) Write quadruples, triples and indirect triples for the expression
 $-(a+b) * (c+d) - (a+b+c)$
- Q.7(a) Discuss the factor effecting target code generation. [2+4+6]
(b) What is DAG? Explain the need of DAG.
(c) Role of Symbol table and Error handlers in compilers.