

Enrol No. 2157

FOURTH SEMESTER END TERM EXAMINATION: APRIL, 2014

BACHELOR OF TECHNOLOGY (COMPUTER SCIENCE & ENGINEERING), BACHELOR OF TECHNOLOGY (COMPUTER SCIENCE & ENGINEERING) + MBA & BACHELOR OF TECHNOLOGY (COMPUTER SCIENCE & ENGINEERING) - EVENING

BTC/UCS 402

SYSTEM I

Time: 3 Hrs

Max Marks: 70

Note: Attempt questions from all sections as directed.

Section - A : Attempt any five questions out of six. Each question carries 06 marks.

[30 Marks]

- Q1. What kind of language processor technologies are used to handle macro expansion? Discuss each.
- Q2. How dynamic and static linking is different from dynamic and static data binding?
- Q3. What do you understand by overlay structure of linking process?
- Q4. What is the significance of ENTRY and EXTERN statements in assembly programs?
- Q5. Discuss the hack - patching technique with respect to solve the problem of forward reference.
- Q6. Write the regular expression for 'constant' and draw the corresponding state transition diagram.

Section - B : Attempt any two questions out of three. Each question carries 10 marks.

[20 Marks]

- Q7. Define optimization? Explain program optimization techniques.
- Q8. Linking is a joint responsibility of Linker and Loader. Justify this statement with the help of suitable examples.
- Q9. Does program optimization offer the facility of algorithm optimization? Justify your answer with example.

Section - C

Q10. Draw the general machine architecture and briefly discuss its components.

What is the relation between regular expression, Nondeterministic Finite Automata (NFA) and Deterministic Finite Automata (DFA) with respect to the Lexical Analyzer?

Define a macro COMPUTE which contains another macro INC. Make your assumptions and discuss the expansion process.

What is an assembler? Give a design overview of two - pass assembler.