

B.Sc. (I. T.) Sem. - IV (2011 Course) : WINTER - 2018

SUBJECT: THEORY OF COMPILERS

Day: Friday
Date: 30/11/2018

W-2018-1106

Time: 10.00 am to 12.00 Noon
Max Marks: 40

N.B:

- 1) Attempt **ANY FOUR** questions
- 2) Figures to the right indicate **FULL** marks
- 3) Draw appropriate diagram wherever **necessary**

Q.1 Explain Code Optimization techniques in details. **(10)**

Q.2 Using the following transition table, convert NFA to DFA: **(10)**

States/Input Symbols	0	1
q ₀	{q ₀ , q ₁ }	q ₀
q ₁	q ₂
q ₂	q ₃	q ₃
q ₃

q₃ is a final state

Q.3 Give the Regular Expressions for input symbols: 0, 1. **(10)**

- i) All the strings that have a single occurrence of '11' in it.
- ii) {x | x starts with a 0 and ends with a 1}.
- iii) {x | x ends with a 00}.
- iv) {x | x x starts with a 0 or 1 and ends with 01}.

Q.4 Construct the SLR table for: **(10)**

E → E + T | T
T → T * F | F
F → (E) | id

Q.5 Define the following: **(2*5)**

- i) Regular Language
- ii) FIRST
- iii) Positive Closure
- iv) Sentential Form
- v) Handle
- vi)

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