

22642

M.Tech. 1st Semester (CSE) CBCB Scheme

Examination, December-2018

**MATHEMATICAL FOUNDATION OF COMPUTER  
SCIENCE**

**Paper- MTCSE 21C5**

Time allowed : 3 hours [Maximum marks : 100]

*Note: Attempt five questions in all selecting one from each  
unit. Question No. 1 is Compulsory.*

1. Explain the following: 20
- NFA
  - PDA
  - Turing machine
  - Regular expression

**Unit-I**

2. Give a complete description about Mealy and Moore models. 20
3. Describe the following: 20
- CNF
  - CFGs

**Unit-II**

4. Describe in detail about Top Down Parsing and Bottom up Parsing. 20
5. Give a complete description about Push down Automata. 20

22642-P-2-Q-9 (18)

[P.T.O.]

(2)

22642

**Unit-III**

6. Describe in detail about Turing machine. 20
7. Explain the following: 20
- Decidable languages
  - The Halting Problem

**Unit-IV**

8. Explain the following: 20
- Primitive Recursive functions
  - Theory of optimization
9. What do you mean by Reducibility and Computability? Explain in detail. 20

<http://www.HaryanaPapers.com>

Whatsapp @ 9300930012

Your old paper & get 10/-

पुराने पेपर्स भेजे और 10 रुपये पायें,

Paytm or Google Pay से

22642