

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)
(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC) Chromepet,
Chennai — 600 044.
M.Sc. END SEMESTER EXAMINATION APRIL/NOV - 2021
SEMESTER - I
20PCSCT1001 - Theory of Computation

Total Duration : 3 Hrs	Total Marks : 75
MCQ : 30 Mins	MCQ : 15
Descriptive : 2 Hrs.30 Mins	Descriptive : 60

Section B

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. Explain briefly Finite Automation.
2. Write the closure properties of Regular Expression.
3. What are all the rules to follow for the construction of CFG from PDA.
4. Illustrate the various types of grammar with example.
5. Briefly write about Parse tree and derivation.
6. Express the techniques for TM construction.
7. When an enumerable language is said to be recursive? Discuss it.
8. Write about Recursive and Recursive Enumerable languages

Section C

Part A

Answer any **TWO** questions ($2 \times 10 = 20$ Marks)

9. Describe the Inductive hypothesis in detail.
10. Explain the two different ways of PDA Acceptability in detail.
11. Develop the short notes on two-way infinite tape TM.
12. Explain the closure property of Context Free Language.

Part B

Compulsory question ($1 \times 10 = 10$ Marks)

13. Explain in detail about Regular Expression and Regular Language.