

Roll.No.

25PCSCT1001

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.Computer Science - END SEMESTER EXAMINATIONS - NOVEMBER 2025
SEMESTER - I

25PCSCT1001 - Theory of Computation

Total Duration : 2 Hrs. 30 Mins.

Total Marks : 60

Section B

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

1. Explain the proving equivalence about sets in detail.
2. Describe about the derivations using grammar in CFG.
3. Classify the properties of context free Languages.
4. Sketch the construction of CFG using an example.
5. Explain the regular expressions with an example.
6. Apply the deterministic PDA's for regular expressions.
7. Describe the closure properties of CFL.
8. Determine the procedure for designing Turing machines.

Section C

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

9. Illustrate the deterministic finite automata with simpler notations.
10. Apply the conversion of DFA's to Regular expression by eliminating states.
11. Discriminate the notations of push down automata.
12. Ascertain the programming techniques for Turning machines.

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

13. Determine the conversion problem of NFA to DFA using regular expressions.
