D 111925 **(Pages : 2)** **Name.....**

Reg. No.....

THIRD SEMESTER (CBCSS–UG) DEGREE EXAMINATION, NOVEMBER 2024

BCA

BCA 3C 06—THEORY OF COMPUTATION

(2019–2023 Admissions)

Time : Two Hours Maximum : 60 Marks

Section A – Short Answer Type Questions

Answer **all** *questions, each correct answer carries a maximum of 2 marks. Ceiling 20 marks.*

1. List any 4 operations on a set.
2. What are equivalence relation ?
3. When will you say two sets are equal ?
4. What are formal languages ?
5. What is type 0 grammar ?
6. Define an automata.
7. What is transition system ?
8. What is the accessibility of a string by a finite automaton ?
9. What is Mealy Moore model ?
10. What are productions ?
11. What are epsilon productions ?
12. What is acceptance by PDA ?

(Ceiling 20 marks)

Section B - Paragraph / Problem type

Answer **all** *questions, each correct answer carries a maximum of 5 marks. Ceiling 30 marks.*

13. Explain about different proof techniques.
14. Explain about operations on a set.
15. Explain about type 2 grammar.
16. Discuss about minimizing finite automaton.

Turn over

17. Explain about context free grammar.

18. Explain about Chomsky normal form.

19. Explain about Turing machine model.

(Ceiling 30 marks)

Section C - Essay type questions

Answer any **one** *question, correct answer carries 10 marks.*

20. Explain about Chomsky classification of languages.

21. Explain closure properties of regular sets.

(1 × 10 = 10 marks)