

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)