DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING

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| --- | --- | --- | --- |
| Date | 15-02-2025 | Maximum Marks | 50 |
| Course Code | 2 | Duration | 3 hours |
| Sem | V | Improvement CIE | No |
| UG/PG | UG | Faculty: | Naman |
| Course Title | TOC |  |  |

# Part- A

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Q. No. | Questions | M | BT | CO |
| 1 | Define CFG, Parse tree/derivation tree, Sentential Form (Left/Right), RMD, LMD, Ambiguity in grammar, yield of a tree | 8 | 4 | 2 |

# Part- B

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Q. No. | Questions | M | BT | CO |
| 1 | Solve using this formula | 4 | 5 | 2 |
| 2 | Define/Explain in Brief: P, NP Problem, NP, NP complete and NP-Hard problems, Travelling Salesman Problem, Polynomial reduction. | 4 | 3 | 1 |
| 3 | State and prove pumping lemma for context free languages. | 6 | 2 | 3 |
| 4 | Solve using this formula | 2 | 5 | 2 |

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BT-Blooms Taxonomy, CO-Course Outcomes

Total Marks: 24