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|  | **United International University (UIU)** |
|  | *Dept. of Computer Science & Engineering (CSE*) |
|  | **CSE-2233, Theory of Computation** - Class Test-3 (C, I)  **Time :** 35 minutes ( SET-2) |



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| **1.** | Construct a **CFG** that generates the following languages:  L = { a4n b2m ck+2 | m= and n ≥ 0 , m>0} | **3** |
| **2.** | Consider the following **context-free grammar** (CFG) and answer the questions that follows:  E → E + E | A | F  𝑆 → 0E44 | 0𝐴 | 0S  A → 5A7 | 2S3 | 0𝑆4 | ε  F → ε | 5 | (5)  Perform **Leftmost derivation** using the grammar for the string: 2003+00444 | **3** |
| **3.** | Consider the following ***context-free grammars (CFG):***  B → 1B3 | 1S3 | ε  S → 2BA | 1S | 2A  A → A11 | 12AS3 | B | ε  With the help of **Top-Down Parse tree** decide whether the grammar is **Ambiguous** or not for the following string: **112113** | **4** |
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