**SOFTWARE CONSTRUCTION (PRACTICALS) – SPRING 2013**

**EXPERIMENT 2 – FINITE STATE MACHINES**

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| **DATE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_** | | **Students Names: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_** | |
| **Marks Obtained: \_\_\_\_\_\_\_\_** | | **COURSE: BESE 16 \_\_\_\_\_** | |
| **Deadline: 1400 hrs 11th Feb 2013** | | **Instructor: Engr. Umar Mahmud** | |
|  | **Instructions**   * This is Syndicate effort. Only **TWO** students per syndicate are allowed. Write your remarks next to the space provided. * Plagiarism is strictly forbidden. * Submit hard copy of the report before deadline. Marks will be deducted for late submissions. | |  |
| 1. | **Objectives:**   1. Learning automata 2. Alphabets, Strings, Languages, DFA, NFA | |  |
| 2. | **Time Required:** 3 hrs | |  |
| 3. | **Programming Language:** NIL | |  |
| 4. | **Software Required:** NIL | |  |
| 5. | **Text Provided:** Slide set | |  |
| 6. | What is the language of all strings defined over 0 and 1 that have length exactly 2? | | (1) |
| 7. | Write the strings of the language over 0 and 1 that have length exactly 3 | | (1) |
| 8. | What is the language of the following DFA? | | (1) |
| 9. | Construct a DFA that Accepts those strings that contain at least two c’s. | | (2) |
| 10. | Create an NFA that accepts all strings in which some 0’s are followed by some 1’s | | (2) |
| 11. | Construct and NFS for. | | (2) |
| 12. | What is your learning in this experiment? | | (1) |