

**CMR TECHNICAL CAMPUS**  
**UGC AUTONOMOUS**  
**B. Tech. VI Semester, Assignment-I**  
**Department of CSE**

**Subject: FLAT**  
**Subject Code:22CS602PC**

**Date:**  
**Max. Marks: 30**

**Note: Answer all the Questions**

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**5 X 06 = 30 Marks**

Q.No	Questions	Marks	CO	BL
UNIT-I				
1	Construct the NFA accepting the following language: i) The set of all strings over $\Sigma = \{a,b\}$ starting with the prefix "ab" ii) The set of all strings over $\{0,1\}$ except those containing the substring "001".	6M	CO1	L2
2	Differentiate between NFA and DFA.	6M	CO1	L3
UNIT-II				
3	Construct DFA with reduced states equivalent to regular expression.  $10+(0+11)0^*1$	6M	CO2	L2
4	Explain about pumping Lemma Theorem and Determine whether the following language are regular or not with proper justification  $L=\{a^n b^n / n \geq 1\}$	6M	CO2	L1
UNIT-III				
5	Show that the following grammar is ambiguous  $E \rightarrow E+E   E-E   E*E   E/E   (E)a$ where E is the start symbol.	6M	CO3	L3

**CO-PO & PSO Mapping**

CO	CO1	CO2	CO3
PO	1,2,3,4,5,11	1,2,3,4,5,11	1,2,3,4,5,11
PSO	1,2	1,2	1,2

**BL–Bloom’s Taxonomy Levels (L1-Remembering, L2-Understanding, L3–Applying, L4–Analyzing, L5–Evaluating, L6- Creating)**