Assignment Question (Unit 2)

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| 1. | **Define** Regular Languages. |
| 2. | **Define** Pumping Lemma. |
| 3. | **Write** the applications of pumping lemma for regular languages. |
| 4. | **List** any two applications of regular expression. |
| 5. | **Define** Context Free Grammars. |
| 6. | **Write** through an intermediate state whose number is not greater than K-1. |
| 7. | **Write** regular expression for denoting language containing empty string. |
| 8. | **Differentiate** LMD and RMD. |
| 9. | **Define** ambiguous grammar. |
| 10. | **State** the following grammar is ambiguous.<br>S-> AB\|aaB A->a / Aa B->b |
| 11. | **Convert** Regular Expression 01* + 1 to Finite Automata. |
| 12. | **Convert** given Finite Automat to Regular Expression using Arden's theorem. |
| 13. | **Convert** given Finite Automat to Regular Expression using standard method($R_{ij}^{K}$ method) |
| 14. | **Explain** Identity rules . Give an example using the identity rules for the simplification. |
| 15. | **Construct** Regular grammar for the given Finite Automata. |
| 16. | Use G be the grammar<br>$S \rightarrow aB \mid bA$<br>$A \rightarrow a \mid aS \mid bAA$ $B \rightarrow b \mid bS \mid aBB$<br>For the string aaabbabbba ,<br>Find<br>a. Leftmost Derivation.<br>b. Rightmost Derivation.<br>c. Derivation Tree. |
| 17. | **Explain** the properties, applications of Context Free Languages |
| 18. | **Construct** right linear and left linear grammars for given Regular Expression. |
| 19. | **Construct** a Transition System M accepting L(G) for a given Regular Grammar G. |
| 20. | **Discuss** the properties of Context free Language. Explain the pumping lemma with an example. |