

(Full Marks – 20, Time: 1 hr)

1. Answer any **four**:

2×4=8

- a) Write down the conditions to be satisfied for a CFG to CNF.
- b) Point out the differences between Moore and Mealy machine. Give example.
- c) Differentiate between Cross Compiler and translator.
- d) What are the differences between NDFA and DFA?
- e) How can you differentiate Semantics from Syntax

2. Answer any **three**:

4×3=12

- a) Write down a Context free Grammar which will generate $a^n cb^n$ for $n \geq 0$.
- b) What are the differences between Parse tree and Syntax tree? Explain with an example.
- c) Write down the three address code for the statement:
$$p > q \text{ AND } r < s \text{ OR } u > r$$
- d) Write a grammar that will accept string like $a1 - (a2 + a3)$. Apply bottom up parsing to show that the grammar accepts the string.