Final Term-Sample

Objective (10 marks)

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Roll No: \_\_\_\_\_\_\_\_\_**

Algorithms and Complexity

**Note:** STRICTLY NO MARKS for cutting, over-writing and more than one answers.

**Problem 1 (7 + 3 = 10 marks):**

**(a)** Encircle the correct choice.

**(1) Which of the following have higher order of growth than n2?**

(a) 3n2 only. (b) n3 only.

(c) 2n only. (d) Both ‘b’ and ‘c’

**(2) Which of the following(s) is/are conditions for existence of Euler path in a graph?**

(a) The graph must have all vertices with degree odd.

(b) The graph must have all vertices with degree even.

(c) The graph must have exactly two vertices of degree odd.

(d) Both ‘a’ and ‘c’

**(3) Which of the following degree sequence(s) is/are graphic?**

(a) 3 2 1 1 1 only. (b) 3 3 3 3 2 2 only.

(c) 2 2 1 1 1 only. (d) Both ‘a’ and ‘b’

**(4) Complete bipartite graph has following properties.**

(a) It must be 2-colorable. (b) It must have even-length cyclic path.

(c) It must have same degree of all vertices. (d) Both ‘a’ and ‘b’

**(5) Which of the following graph(s) is/are NOT regular graphs?**

(a) Complete graphs only. (b) Wheel graphs only.

(c) Cube graphs. (d) Both ‘b’ and ‘c’

**(6) Which of the operator is NOT considered while calculating cost of an algorithm?**

(a) Assignment (=) operator only. (b) Addition (+) operator only.

(c) Comparison (==) operator only. (d) Both ‘a’ and ‘c’

**(7) Which of the following properties in a graph define a tree structure?**

(a) Edges must be one less than vertices. (b) Cyclic path must be there.

(c) Vertices must be odd in number. (d) None of above

**(8)** Graph may have only one vertex of degree odd. ( T / F )

**(9)** Algorithm may have infinite number of instructions. ( T / F )

**(10)** Two variables cannot be interchanged without using third variable. ( T / F )

GOOD LUCK