**B.TECH. CS IIIrd Semester Sessional Examination, AUGUST 2017**

**Subject Name: DIGITAL ELECTRONICS**

**Duration: 1:30 hr. Max Marks: 50**

**Section A**

**(Short Answer Type) 5 questions of 10 marks each (any 3) 30**

1. Convert (DEAF)16 into decimal, octal, 4-bit (nibble) and binary number system.

2. Convert (7532)8 into decimal, hexadecimal, 4-bit (nibble) and binary number system.

3. Convert (786)10 into hexadecimal, octal, 4-bit (nibble) and binary number system.

4. Convert (1010101100)2 into decimal, octal, 4-bit (nibble) and binary number system.

5. Simplify/minimize using k-map;

a. F=∑ m (1, 2, 3, 5, 7, 9, 11, 13, 15)

b. F=∑ m (2, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15)

**Section B**

**(Long Answer Type) 2 questions of 20 marks each (any 1) 20**

1. Explain full adder with proper truth table, expression and logic circuit.

2. Explain full subtractor with proper truth table, expression and logic circuit.

3. Simplify/minimize using Boolean algebra;

F= abcd+a’bcd+ab’cd+abc’d+abcd’+abc+a’bc+ab’c+abc’+ab’+bc’+a

*TEAR FROM HERE*

**B.TECH. CS IIIrd Semester Sessional Examination, AUGUST 2017**

**Subject Name: DIGITAL ELECTRONICS**

**Duration: 1:30 hr. Max Marks: 50**

**Section A**

**(Short Answer Type) 5 questions of 10 marks each (any 3) 30**

1. Convert (DEAF)16 into decimal, octal, 4-bit (nibble) and binary number system.

2. Convert (7532)8 into decimal, hexadecimal, 4-bit (nibble) and binary number system.

3. Convert (786)10 into hexadecimal, octal, 4-bit (nibble) and binary number system.

4. Convert (1010101100)2 into decimal, octal, 4-bit (nibble) and binary number system.

5. Simplify/minimize using k-map;

a. F=∑ m (1, 2, 3, 5, 7, 9, 11, 13, 15)

b. F=∑ m (2, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15)

**Section B**

**(Long Answer Type) 2 questions of 20 marks each (any 1) 20**

1. Explain full adder with proper truth table, expression and logic circuit.

2. Explain full subtractor with proper truth table, expression and logic circuit.

3. Simplify/minimize using Boolean algebra;

F= abcd+a’bcd+ab’cd+abc’d+abcd’+abc+a’bc+ab’c+abc’+ab’+bc’+a

*TEAR FROM HERE*

**B.TECH. CS IIIrd Semester Sessional Examination, AUGUST 2017**

**Subject Name: DIGITAL ELECTRONICS**

**Duration: 1:30 hr. Max Marks: 50**

**Section A**

**(Short Answer Type) 5 questions of 10 marks each (any 3) 30**

1. Convert (DEAF)16 into decimal, octal, 4-bit (nibble) and binary number system.

2. Convert (7532)8 into decimal, hexadecimal, 4-bit (nibble) and binary number system.

3. Convert (786)10 into hexadecimal, octal, 4-bit (nibble) and binary number system.

4. Convert (1010101100)2 into decimal, octal, 4-bit (nibble) and binary number system.

5. Simplify/minimize using k-map;

a. F=∑ m (1, 2, 3, 5, 7, 9, 11, 13, 15)

b. F=∑ m (2, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15)

**Section B**

**(Long Answer Type) 2 questions of 20 marks each (any 1) 20**

1. Explain full adder with proper truth table, expression and logic circuit.

2. Explain full subtractor with proper truth table, expression and logic circuit.

3. Simplify/minimize using Boolean algebra;

F= abcd+a’bcd+ab’cd+abc’d+abcd’+abc+a’bc+ab’c+abc’+ab’+bc’+a

*TEAR FROM HERE*