S.B. Roll No.....

DIGITAL ELECTRONICS

3rd Exam/ECE/ETV/ECE-II/Comp/IT/CSc/EEE/0620/May'18

Duration: 3Hrs. **M.Marks:75**

SECTION-A

Q1. Do as directed. **10x1.5=15**

a. Radix of Hexadecimal number is _____.
b. ASCII code is ____ bit code.
c. IC 7402 is _____ gate.
d. BCD stands for_____.
e. The expression A+B represents _____ gate.
f. 1011 is a valid BCD number. (T/F)
g. 2's compliment of 1101 is _____.
h. CMOS stands for _____.
i. 8:1 Multiplexer has _____ number of select lines.
j. SSI stands for_____.

SECTION-B

Q2. Attempt any five questions. **5x6=30**

i. What are advantages of digital signal?
ii. Draw and explain Half Adder.
iii. Explain the working of 3 bit asynchronous counter.
iv. Explain Universal gates with diagrams.
v. Define noise margin, propagation delay and fan-out.
vi. Describe Ring counter with timing diagram.
vii. Explain the function of JK flip flop?
viii. Explain dual scope A/D converter.

SECTION-C

Q3. Attempt any three questions. **3x10=30**

a. Draw symbol and truth table of various logic gates.
b. Simplify the given K-map and draw logic circuit using gates:
   $F(A,B,C,D)= \sum(0,3,6,7,9,13,14,15)$
c. Draw and explain BCD to decimal decoder. Give its applications also.
d. Describe the operation of Universal Shift Register.
e. Draw and explain the Full Subtractor.