



A-1723
B.Sc. (I.T.) (Sem. III) Examination
March / April – 2015
Digital Electronics

Time : 3 Hours]

[Total Marks : 70

Instruction :

<p>नीचे दृशावेव निशानीवाणी विगतो उत्तरवही पर अवश्य कभवी. Fillup strictly the details of signs on your answer book.</p> <p>Name of the Examination : B.Sc. (I.T.) (Sem. III)</p> <p>Name of the Subject : DIGITAL ELECTRONICS</p> <p>Subject Code No. : 1 7 2 3 Section No. (1, 2,.....): Nil</p>	<p>Seat No. :</p> <table border="1" style="width: 100%; height: 20px;"><tr><td style="width: 15%;"></td><td style="width: 15%;"></td><td style="width: 15%;"></td><td style="width: 15%;"></td><td style="width: 15%;"></td><td style="width: 15%;"></td></tr></table> <div style="border: 1px solid black; border-radius: 15px; height: 80px; display: flex; align-items: center; justify-content: center; margin-top: 10px;">Student's Signature</div>						

- 1 (A) Answer the following questions. (any four) 4
- (1) Write full form of EPROM
 - (2) How many flip-flops require in mod -5 counter ?
 - (3) Draw truth table of 2-input NOR gate.
 - (4) Draw Truth table of Mod- 8 counter circuit.
 - (5) List out different flip-flops.
- (B) Answer the following questions (Any three) 12
- (1) Explain AND gate and NAND gate.
 - (2) Explain Half Adder.
 - (3) Write short note on ROM.
 - (4) Explain even parity generator functionality in detail for the data pattern '01011010'.
- 2 Answer the following questions. (Any Two) 18
- (1) Explain Mod-10 counter with the help of circuit diagram timing diagram and Truth table.
 - (2) Explain DECODER circuit using truth table.
 - (3) Explain circuit diagram of Parallel Input parallel Output shift register with the help of Timing diagram.

- 3 Answer the following questions 18
- (A) Answer the following short questions in detail. (Any four) 4
- (1) Draw and explain Ex-or gate Boolean Truth table.
 - (2) Write difference between Asynchronous counter and synchronous counter.
 - (3) Draw circuit diagram of Mod -3 counter.
 - (4) Which gate use for Parity checker application?
 - (5) Write demorgons second law.
- (B) Answer the following questions in detail. (Any two) 14
- (1) A) Explain Bubbled AND gate, Bubbled OR gate. 4
B) Explain Schmitt trigger concept for digital signal 3
 - (2) Write short note on Mod-6 counter.
 - (3) Write short note on J-K flip flop.
- 4 Answer the following questions 18
- (A) Answer the following questions. (Any four) 4
- (1) Write Boolean equation of EX-OR gate.
 - (2) Draw symbol of ORgate.
 - (3) Explain NOT gate.
 - (4) Draw D flip flop internal circuit.
 - (5) Draw gate combinational gate circuit diagram for following Boolean equation.
- (1) $((((AC.ABD)+ABC). AB)+ BCD).AC)$
- (B) Answer the following questions. (Any Two) 14
- (1) Write short note on S-R Flip flop.
 - (2) Explain parallel full adder and subtractor circuit using Truth table and Timing diagram.
 - (3) Write Boolean equation and draw circuit diagram for given truth table by using sum of product method.

Input			output
A	B	C	Y
0	0	0	1
0	0	1	1
0	1	0	1
0	1	1	0
1	0	0	1
1	0	1	0
1	1	0	0
1	1	1	1