



**JB-3093**

**Second Year B. Sc. (Sem. III) Examination**  
**March/April – 2013**

**Electronics : Paper - IV**

*(Advance Digital Electronics & Circuit Design)*

Time : Hours]

[Total Marks : 50

**Instructions :**

(1)

नीचे दर्शायेव निशानीवाणी विगतो उत्तरवही पर अवश्य कपवी. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
← S. Y. B. SC. (SEM. 3)	<input type="text"/>
Name of the Subject :	<input type="text"/>
← ELECTRONICS : PAPER - 4	<input type="text"/>
← Subject Code No. : <input type="text"/> 3 <input type="text"/> 0 <input type="text"/> 9 <input type="text"/> 3 ← Section No. (1, 2,.....): <input type="text"/> Nil	<input type="text"/>
	Student's Signature

- (2) Figures on the right indicates full marks
- (3) All symbols and abbreviations have their usual meaning.
- (4) Non-programmable calculators are allowed.
- (5) Q.1 is compulsory.
- (6) Assume data if necessary.

- 1 Answer in short : 8
- (a) What is a toggle condition in a flip-flop?
  - (b) Write the truth table of RS flip-flop.
  - (c) What is modulus of a counter?
  - (d) Define state diagram.

- 2 (a) Explain the operation of JK flip flop using clock diagram. 8
- (b) Explain the different methods for triggering of flip-flop. 6

**OR**

- 2 (a) Discuss the serial expansion and parallel expansion of RAM. 8
- (b) Explain the advantages and disadvantages of dynamic RAM. 6

- 3 (a) Draw the decade counter and explain its working with help of clock diagram. 8  
(b) Design Mod -4 synchronous counter using JK flip-flop and implement it. 6

**OR**

- 3 (a) Explain the operation of shift register. 8  
(b) Define counter. Write the classification of counter. 6
- 4 Write short notes on : (any two) 14  
(a) Universal Shift register  
(b) Parallel adder-subtractor  
(c) BCD adder  
(d) D flip flop.
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