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BIEE-017

B.Tech. – VIEP – ELECTRICAL ENGINEERING (BTELVI)

01165

Term-End Examination

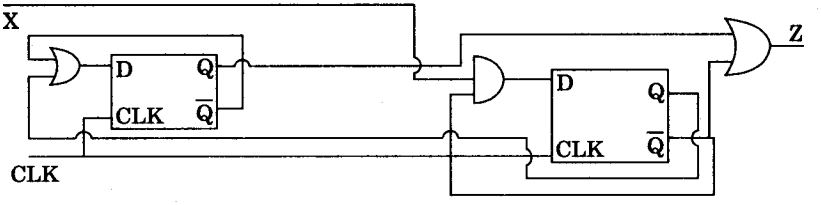
December, 2014

BIEE-017 : DIGITAL ELECTRONICS

Time : 3 hours *Maximum Marks : 70*

Note : *Attempt any **seven** questions. All questions carry equal marks. Missing data may be suitably assumed.*

1. Write the excitation equations, transition table and output table for the following clocked synchronous state machine : *10*



2. Design a BCD to Excess-3 code converter using minimum number of NAND gates. *10*

3. Describe and discuss the operation of a T-type flip-flop, with one application example. *10*

4. (a) Draw and explain the operation of half-adder and full-adder with suitable diagram.

   (b) Explain the operation of Programmable Logic Array (PLA) with the help of suitable example. *2×5=10*

5. What are shift registers ? Design a 4-bit ripple counter using flip-flops. *10*

6. Explain 8085 Bus structure and various interrupts used in 8085. *10*

7. Describe the functional block diagram of 8086 microprocessor. *10*

8. Explain the following assembler directives : *5×2=10*

   (a) ASSUME

   (b) DW

   (c) DB

   (d) END

   (e) DD

9. (a) What is the difference between 8086 and 8088 ?

   (b) Identify the contents of the Accumulator and the flag status when the following instructions are executed : *2×5=10*

	A	S	Z	CY
MVI A, 7FH				
ORA A				
CPI A2H				

10. What determines whether a microprocessor is considered as a 8-bit, a 16-bit or a 32-bit device ? What are the advantages of using CPU registers for temporary data storage over using a memory location ? *10*
