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BICSE-001

B.Tech. – VIEP – COMPUTER SCIENCE AND ENGINEERING (BTCSVI)

00361

Term-End Examination

June, 2014

BICSE-001 : EMBEDDED SYSTEM

Time : 3 hours *Maximum Marks : 70*

Note : *Answer any* ***seven*** *questions. All questions carry equal marks.*

1. (a) Define a timing diagram. Draw the timing diagrams of NAND gate and D Flip-Flop. *5*

(b) What is a ROM ? Describe the types of ROM. *5*

2. Write short notes on the following : $2\frac{1}{2} \times 4$

(a) Bus Handshaking

(b) No handshake

(c) Bus handshaking with a wait signal

(d) Wait states (or) performance

3. (a) What is a shared data problem ? Write the example program for the classic shared data problem. *5*

(b) What are the characteristics of the shared data bug ? How can we solve the data problem ? *5*

4. (a) Explain the system optimization with a neat diagram. 5

(b) Differentiate between RISC and CISC. 5

5. (a) Explain the architecture of Round Robin with examples. 5

(b) Explain the Round Robin with interrupts characteristics. 5

6. (a) Where are the C-variables stored in memory ? Explain. 5

(b) Define Semaphores. What are Wait and Signal operations ? 5

7. (a) What are the methods present in intertask communication ? Briefly explain. 5

(b) What are the pitfalls of intertask communication ? 5

8. (a) Define Event. Compare the Events with Semaphores. 5

(b) How can we handle the trigger group of events ? Write the program. 5

9. (a) Briefly explain hard real time scheduling considerations. 5

(b) How can we save the memory space ? Describe it. 5

10. (a) Define assert macro. Write the code and explain. 5

(b) What are the different embedded file formats ? How can we create object files ? 5