

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

00204

Term-End Examination

December, 2017

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 ROM ? Describe the types of ROM. 5
2. (a) Draw and explain the interrupt hardware. 5
- (b) Define Volatile Keyword. How does disabling interrupts affect system response ? 5
3. (a) How does an embedded system differ from other computing systems ? What are the challenges in designing such a system ? 5
- (b) Give two examples of embedded systems and illustrate any one of them. 5

4. (a) Describe the characteristic of the Round Robin with interrupts architecture. 5
- (b) Define RTOS. What are the priority levels for RTOS architecture? 5
5. Explain the embedded software development process. 10
6. (a) Discuss the advantages and disadvantages of using a large number of tasks in a RTOS. 5
- (b) What is an Underground Task Monitoring System? 5
7. (a) Briefly explain hard real-time scheduling considerations. 5
- (b) Describe how we can save memory space. 5
8. (a) How should the interrupt routines work? 5
- (b) What are the RTOS performance metrics? 5
9. (a) Express cross compiler in detail. 5
- (b) Describe the tool chain for building embedded software. 5

10. Describe any *two* from the following :

$2 \times 5 = 10$

- (a) DMA
 - (b) Round Robin
 - (c) No Handshake
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