

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA - SEMESTER-V -EXAMINATION – WINTER 2018

Subject Code: 2650012

Date: 28/11/2018

Subject Name: Software Development for Embedded Systems

Time: 10.30 am to 1.00 pm

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q – 1 [A] Define the following terms : 07**
1. NRE Cost
 2. PWM
 3. Time to Prototype
 4. Give Full Form of ISA.
 5. Market Window
 6. CCDP
 7. Design Gap
- [B] What is Embedded System? Explain the characteristics of Embedded System. 07**
- Q – 2 [A] Explain the basic architecture of General Purpose Processor. 07**
- [B] Explain Embedded software development process with proper diagram. 07**
- OR**
- [B] What is Watchdog Timer? Explain with ATM time out Example. 07**
- Q – 3 [A] Discuss the following in brief: Mask – programmed EPROM, EEPROM, Flash EEPROM, SRAM, DRAM, PSRAM and NVRAM. 07**
- [B] Explain Timers and Counters with proper diagram. 07**
- OR**
- Q – 3 [A] How UART is used for Communication? Explain. 07**
- [B] Sketch the internal design of 4 X 3 RAM. 07**
- Q – 4 [A] Explain the following : 07**
1. I²C
 2. IrDA
 3. PCI Bus
- [B] Write a short note on Serial Communication Protocol. 07**
- OR**
- Q – 4 [A] Discuss the following: 07**
1. Standard I/O and Memory Mapped I/O
 2. Port – Based I/O and Bus – Based I/O
- [B] Explain the Cache and Cache Mapping Techniques in detail. 07**
- Q – 5 [A] Explain the role of Cross – Compiler, Cross – Assembler and Linker/Loader 07**

in Embedded System.

[B] Discuss various methods for getting Embedded Software into target system. **07**

OR

Q – 5 **[A]** Explain DBGMAIN.C, LEVELS.C and OVERFLOW.C **07**

[B] Explain Instruction Set Simulators with its abilities. **07**