**SET-A**

**Rajasthan Institute of Engineering & Technology, Jaipur**

**University Roll No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 3rd Year B. Tech. ..6th..Semester…IInd Mid Term Exam April– 2018

 Branch: - CSE

 Subject: - ESD [Maximum Marks: -20]

 Instructions to Candidates: -

 Attempt all four questions. All questions carry equal marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly.

Q.1 An interrupt routine must not call any RTOS function that might block the caller. What do you understand by this statement in the reference of interrupt routines in an RTOS environment?

**OR**

Q.1 What is the general operation required by the embedded system? Create a flow diagram to represent working of telegraph operation.

Q.2 Explain principles of basic design using a Real –Time operating System. Make sure that you really need time-slicing before you enable it explain this statement according to the tank monitoring system case study?

**OR**

Q.2 Give answers for following questions:

 Q1 how quickly must the system respond when the user pushes a button?

 Q2 how long will it take for the microprocessor to calculate the number of gallons in a tank, given the float level and temperature?

Q.3 What do you understand by hard real-t time scheduling? How can you save memory space in embedded system implementation?

**OR**

 Q.3 Write a short note on:

(A)Native Linker

(B) Address Resolution

(C) How the tool chain uses segments

Q.4 Give a brief introduction about getting embedded software in to the target system?

**OR**

Q.4 Explain the In circuit emulator and monitor in Getting embedded software in to the target system?

**SET-B**

**Rajasthan Institute of Engineering & Technology, Jaipur**

**University Roll No. \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

 3rd Year B. Tech. ..6th ..Semester…IInd Mid Term Exam April– 2018

 Branch: - CSE

 Subject: - ESD [Maximum Marks: -20]

 Instructions to Candidates: -

 Attempt all four questions. All questions carry equal marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly.

Q.1 An interrupt routine may not call any RTOS function that might cause the RTOS to switch tasks unless the RTOS knows that an interrupt routine, and not a task, is executing. What do you understand by this statement in the reference of interrupt routines in an RTOS environment?

**OR**

Q.1 What do you understand by nested interrupts explain with the diagram which show relation between RTOS scheduler goes to Task High instead of finishing low-priority ISR.

Q.2 Design an embedded system for underground tank monitoring system .What is the utilization of task division? How much task division required for underground tank monitoring system.

**OR**

Q.2 Give answer for following questions:

Q1 when the float in one tank is rising rapidly, how often do we need to read it?

Q2 How fast does the printer print?

Q.3 Why we are creating system with hard real-time scheduling? How can you save power in embedded system implementation?

**OR**

Q.3 Write a short note on:

1. Host and Target Machines
2. Cross –Compliers

 ( C) Cross –Assemblers and Tool chains

Q.4 Give an example of tank level major meant hardware and explain share data problem in its functioning.

**OR**

Q.4 Getting embedded software in to the target system this is one biggest problem we face in development of embedded system .write down two different solutions for this.