Code No.: **54116**

MR 15 – 2015-16 & 2016-17 Admitted Students

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

(Affiliated to JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD)

Gundlapochampally (H), Maisammaguda (V), Medchal (M), Medchal-Malkajgiri (Dist), Hyderabad.-500 100.

M.TECH I SEMESTER SUPPLEMENTARY EXAMINATIONS, JULY-2017

SUBJECT: **REAL TIME OPERATING SYSTEMS**

Branch/Specialization: **ECE/ Embedded Systems**

Time: **3 Hours** Max Marks: **60**

PART-A

Answer the following Questions **5 X 4 Marks=20 Marks**

1. Explain Process Control
2. Briefly discuss Characteristics of RTOS
3. Describe Basic Concepts of I/O & I/O Subsystem
4. write a short notes on Timer Interrupt Service Routines (ISR)
5. explain memory management in Android OS.

PART-B

Answer any 5 questions **5 X 8 Marks=40 Marks**

1. Explain in details about following process control functions
   a) Fork & vfork b) read & rite

2. a) Explain flow control of Communication and Concurrency.
   b) Define Semaphores & its Operations

3. a) Describe Component Configuration
   b) Event Registers

4. a) Discuss Processing of Exceptions and Spurious Interrupts
   b) write a notes on Programmable Timers

5. a) what are the advatages and limitations of Embedded Linux
   b) explain the concept of MicroC/OS-II

6. a.explain file sytem of linux
   b. define different Task Operations & its performance

7. a. Basic I/OConcepts, I/O Subsystem
   b. Timer Interrupt Service Routines (ISR)

8. write a short notes on
   a. Storage **b.** Interrupts **c.** Synchronization

Code No.: 54303

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Gundlapochampally (H), Maisammaguda (V), Medchal (M), Medchal-Malkajgiri (Dist), Hyderabad.-500 100.

M.TECH I SEMESTER SUPPLEMENTARY EXAMINATIONS, AUGUST-2017

SUBJECT: **EMBEDDED C**

Branch/Specialization: **ECE/ Embedded Systems**

Time: **3 Hours** Max Marks: **60**

PART-A

Answer the following Questions **5 X 4 Marks=20 Marks**

1. Explain the clock circuitry of 8051 [4M]
2. Discuss about I/O ports in 8051. [4M]
3. What is the need of pull up resistors? [4M]
4. Write a program to blink LED for a delay of 500 ms? [4M]
5. Explain the block diagram of intruder alarm systems [4M]

PART-B

Answer any 5 questions **5 X 8 Marks=40 Marks**

1. What is an embedded system? Explain which programming language is preferable with proper illustration. [8M]
2. List out the various interrupts available for 8051 microcontroller family? Discuss about the concept of interrupt servicing mechanism used in 8051 microcontroller, in brief. [8M]
3. Write a short notes on (i) Project Header (ii) Port Header [8M]
4. How to create and testing a hardware timeout in an embedded system? Explain [8M]
5. Draw and explain the software architecture of an intruder alarm system. [8M]
6. Elaborate the development procedure of embedded software for an effective embedded system. [8M]
7. Explain how to create and testing loop timeouts in a reliable switch interface circuit. [8M]
8. Explain the memory organization of 8051 microcontroller family with suitable diagram. 8 M

Code No.: **54304**

MR 15- 2016-17 Admitted Students

MALLA REDDY ENGINEERING COLLEGE(AUTONOMOUS)

(Affiliated to JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD)
Maisammaguda, Dhulapally,(Post Via Kompally), Secunderabad-500 100.

M.TECH I SEMESTER SUPPLEMENTARY EXAMINATIONS, AUGUST - 2017

SUBJECT: **TCP/IP NETWORKS**

Branch/Specialization: **ECE/Embedded System**

Time: **3 Hours** Max. Marks: **60**

PART-A

Answer All Questions **5x4M=20M**

1. What is fragmentation and why is it needed?
2. Explain one -bit sliding window protocol. Give the advantages and disadvantages of one-bit sliding window protocol?
3. Draw the UDP header format and explain.
4. Explain the process of agent discovery in mobile networks.
5. Write short notes on integrated services.

PART – B

Answer any FIVE Questions **5x8M=40M**

1. Draw the OSI network architecture and explain the functionalities of each layer in detail. (8M)
2. a) Explain about the timer management in TCP. (4M)
   b) With a neat sketch illustrate the state transition diagram of TCP. (4M)
3. Explain about error control in SCTP (8M)
4. a) Explain about TCP performance issues over wireless links. (5M)
   b) Give short notes on explicit loss notification. (3M)
5. Discuss the Random Early detection mechanism and derive the expression for drop probability. (8M)
6. (a) Show the IPv6 header details and explain them. (4M)
   (b) Explain in detail about the sliding window protocol using Selective Repeat (4M)
7. a) Briefly discuss on IP packet delivery. (4M)
   b) Discuss the features of SCTP. (4M)
8. Write short notes on any two of the following
   (a) Classless and classful addressing (4M)
   (b) QoS in switched networks (4M)
   (c) Differentiate TCP and UDP (4M)