

M.E. Second Semester (Computer Science & Information Technology) (New - CGS)

**13189 : Real Time Embedded Systems : 2 RNME 1**

P. Pages : 2

Time : Three Hours



**AU - 3437**

Max. Marks : 80

- Notes :
1. All question carry equal marks.
  2. Due credit will be given to neatness and adequate dimensions.
  3. Assume suitable data wherever necessary.
  4. Use of pen Blue/Black ink/refill only for writing book.

1. a) Explain in detail the process of creating an executable image, using a block diagram. 7  
b) Discuss the recent trends in Embedded systems. 6

**OR**

2. a) List the various services provided by an operating system and Explain the special requirements of an Embedded system. 7  
b) Draw and explain the Layered architecture of an Embedded system. 6
3. a) Explain the waterfall model alongwith its building blocks. 7  
b) List and explain the important issues in managing embedded system projects development. 7

**OR**

4. a) Describe a various productivity tools to develop a software. 7  
b) Explain the process of requirements Engineering in detail. 7
5. a) Explain different types of hardware platforms for embedded systems. 6  
b) Explain the architecture of 8051 family micro-controller. 7

**OR**

6. a) Explain ethernet LAN protocol architecture. 6  
b) Explain broad specifications of Bluetooth standards. 7
7. a) List the various objects of an operating system Kernel. Explain it. 7  
b) Explain the following algorithms :- 7
  - i) Preemptive multitasking.
  - ii) Non-preemptive multitasking.

**OR**

8. a) What is task scheduling? Explain the states of a task in an Embedded system. 7  
b) What are handheld operating systems? Explain any four popular handheld operating systems. 7
9. a) Explain the software defined Radio transmitter architecture. 6  
b) What is RF-tags? Explain the mechanism of contactless smart card using RF tag. 7

OR

10. a) Draw and explain the data packet and file name packet for ethernet and serial communication in project overview of protocol convertor. 7  
b) Enlist and explain the features of linux. 6
11. a) What is the use of filtering in DSP? List and explain its various types. 7  
b) Draw and explain RFID system in detail. 6

OR

12. a) List the various phases in the process of development of DSP. Explain it. 7  
b) Explain the following. 6  
i) Time domain analysis of digital signals.  
ii) Frequency domain analysis of signals.

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