T.E.(I.T.), (Sem-V) (CBSGS) I.T.

Sub:- Microcontroller & Embeded Systems.

QP Code : 3410

(3 Hours) **[Total Marks : 80**

N.B : (1) Question No. 1 is **compulsory.**

(2) Solve any **three** questions out of remaining questions.

(3) **Figures** to the **right** indicate **full** marks.

(4) Assume suitable **data** where **necessary.**

1. (a) What is embedded system? Discuss various components of embedded system. 5

   (b) Describe the instructions of 8051 , SWAP A and MOVX @ DPTR, A with one example. 4

   (c) Explain PSW register of 8051. 5

   (d) Describe the features of ARM that makes it suitable for embedded system. 6

2. (a) Explain in detail ARM 7 pipelining. 10

   (b) Explain addressing modes of 8051. 10

3. (a) Write a assembly language program for 8051 to find largest number from a data block of ten bytes that present in internal memory locations 20 H to 29H. Store the result in memory location 2A H . 10

   (b) What is Event register? Explain the use of Event function with respect to embedded operating systems. 10

4. (a) Write a assembly language program to generate a rectangular waveform of frequency 1 KHz and 30% duty cycle at pin P1.0 using 8051. Assume 8051 is operating at frequency 12 MHz. 10

   (b) Describe the flow of ARM development tools for embedded system design 10

5. (a) How RTOS manages the memory? Give the memory management strategy of RTOS in embedded system. 10

(b) Explain various modes of operation of serial port in 8051 10

6. (a) Explain automated meter reading system in detail . 12

(b) Explain how semaphores can be used to solve shared data problem. 8

T.E. Sem V CBGS I.T. O.S.T

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Q.P. Code : **3417**

(3 Hours) [**Total Marks : 80**

N.B. : (1) Question No 1 is **compulsory** solve **any 3** questions from remaining **five** questions.
(2) Assume **suitable data** wherever necessary.
(3) **Figures** to the **right** indicate **full** marks.

1. (a) What is partitioning? Explain hosting parts of the Linux File system on Separate partitions. 10
   (b) Write the purpose of the following global configuration directives of http. conf 10
   (i) Keepalive
   (ii) KeepaliveTimeout
   (iii) MaxClients
   (iv) ServerLimit
   (v) StartServers.

2. (a) List out and explain the directories where the Apache RPM installs files. 10
   (b) What is daemon process. Explain daemon characteristics and basic coding rules. 10

3. (a) What is shell programming ? Explain with examples how expressions are evaluated in shell programming. 10
   (b) Explain the grep command using c, i and v options. Explain with examples. 10

4. (a) What is file permissions? What are the different ways of setting file permissions ? Explain. 10
   (b) What are the packages required to configure secure server with SSL ? How can we obtain digital certificate from certifying authority? 10

5. (a) What is RAID ? What are its different types ? What are different levels of RAID ? 10
   (b) Explain the features of linux in detail with different linux distributions. 10

6. (a) What is inode ? Why are the inode unique only within a file system? How does map the inode to its filename ? Bring out four important differences between soft and hard links. 10
   (b) Explain different types of DNS servers. 10
