

Total No. of Questions : 8]

[Total No. of Printed Pages : 2

Roll No

MEVD-302(B)**M.E./M.Tech., III Semester**

Examination, December 2017

Embedded System Programming

(Elective-IV)

Time : Three Hours

Maximum Marks : 70

- Note: i) Attempt any five questions.
ii) All questions carry equal marks.

1. a) What are the different conditional statements used in "C"?
Explain it with example. 7
b) Write a C program for 8051 microcontroller to drive
8 LED's. 7
2. a) Describe the architecture of Linux operating system, with
all its modules. 7
b) Explain the steps for writing Shell Script with suitable
example. 7
3. a) What is the Decimal value represented by the 8-bit binary
number 11001001.0101₂ when interpreted as 4
i) An unsigned number?
ii) A 2's complement number?
b) Explain the following terms: 10
i) Non-preemptive (Cooperative) Multitasking
ii) Preemptive Multitasking
iii) Spin Locks
iv) Mutex Objects
v) Semaphores

[2]

4. a) How to write interrupt-driven code for an 8051 using any
of C compiler? 7
b) What is the difference between Data Flow Graph (DFG)
and Conditional Data Flow Graph (CDFG) model? Explain
their significance in embedded system design. 7
5. a) Explain each of the followings: 7
i) Assemblers ii) Compilers
iii) Linkers iv) Loaders
v) Debuggers
b) Explain different design issues, challenges, and trends in
embedded system. 7
6. a) How to access the serial port on an 8051 using C Code? 7
b) What is the difference between Finite State Machine
(FSM) and Hierarchical Concurrent Finite State Machine
model (HCFSM)? Explain it with examples. 7
7. a) Explain Round-Robin scheduling, Priority-based
scheduling, and Deadline-Driven scheduling. 7
b) What are the three basic types of memory allocation are
offered by 'C'? Explain in detail. 7
8. a) How to use the Linux GNU binary utilities commands:
objcopy and objdump? Explain it with examples. 7
b) Explain the following 'C'-storage classes with examples: 7
i) auto
ii) register
iii) static
iv) extern

546