D-2

Seat Number: - _____

Duration: 2 1/2Hrs **G46A23IES** **Marks:- 75**

Note:- 1) All questions are compulsory.
2) Figures to the right indicate maximum marks.

Q1. Attempt any "Three" of the following: **(15)**

1. Explain the application of embedded system. (CO1-U)
2. Give a classification of embedded system. (CO1-U)
3. Define embedded system with example. (CO1-U)
4. Difference between RISE and CISC processor/controller. (CO1-A)
5. Explain the working of sensor and actuator. (CO1-U)
6. Explain the use of control system in embedded system? (CO1-U)

Q2. Attempt any "Three" of the following: **(15)**

1. Explain the working of washing machine in embedded system. (CO2 -U)
2. What is RAM? Explain the types of RAM. (CO2,4-UR)
3. Explain the term CRC with example. (CO2-A)
4. Explain the working of interrupt map with communication devices. (CO2,3-U)
5. What is Hybrid Memory? Explain the types of Hybrid memory . (CO1,2-U)
6. Explain the working of watchdog timer. (CO2,-R)

Q3. Attempt any "Three" of the following: **(15)**

1. Give the magnitude of the unsigned int and signed int data types. (CO3,4-R)
2. Write a short program that toggle all the bits of Po and P2 continuously with a 250 ms delay. (CO3 - A)
3. Explain the 8051 Family. (CO3-U)
4. Explain the working of 8051 microcontroller with diagram. (CO3-U)
5. Write a short note on "Input/output pins, ports and circuits" (CO3-UR)
6. Explain the embedded applications. (CO3 - U)

Q4. Attempt any "Three" of the following: **(15)**

1. Explain the structure of embedded program. (CO4 – U)
2. Differentiate global variables and local variables.(CO4- U)
3. What is the use of CPU in microcontroller. (CO4-U)
4. Explain the working of BUS in microcontroller?. (CO4-U)
5. Differentiate data types and keywords? (CO4-R)
6. Write a program to toggle of P1.5 of microcontroller. (CO4-A)

Q5. Attempt any "Three" of the following: **(15)**

1. Explain embedded development life cycle. (CO5 –U)
2. Explain the concept of map file. (CO5-U)
3. What is simulator? Explain the advantage and disadvantage of simulator. (CO5-U)
4. Explain the development language trends. (CO5-U)
5. State and explain " THE KERNEL" process in operating system. (CO5-UR)
6. State characteristics of real time Operating System . (CO5-U,R)