Seventh Semester B.Tech. Degree Examination, February 2017
(2008 Scheme)
08.704 Elective – III (h) : EMBEDDED SYSTEMS (E) :

Time : 3 Hours
Max. Marks : 100

PART – A

Answer all questions. Each question carries 4 marks.

1. Discuss the tool chain in embedded system.
2. List various applications of embedded systems.
3. Discuss the flag register of 8051 microcontroller.
4. Explain the function of TMOD and TCON registers of 8051 microcontroller.
5. Discuss the difference between hard and soft real time systems.
6. Write the different addressing modes of 8051 microcontroller.
7. What is meant by address decoding ?
8. Differentiate between sequential tasking and multitasking systems.
9. With a neat diagram, explain how an ADC can be interfaced with 8051 microcontroller.
10. Discuss register banks of 8051 microcontroller.

(PART – B

Answer any one question from each Module.

Module – I

11. a) Discuss various life cycle models.
   b) Discuss in detail the challenges and trends in embedded systems.
   OR

12. Explain the development of a complete embedded system product with the help of a suitable example.

(10x4=40 Marks)

10

20

P.T.O.
Module – II

13. a) Draw the architecture of 8051 Microcontroller and explain the functions of each unit.
   b) Write an 8051 ALP program to add two 16 bit numbers.
      OR

14. a) Explain the interrupt structure of 8051 microcontroller.
   b) Explain in detail the serial and parallel communication systems in 8051 microcontroller.

Module – III

15. a) Explain the various components of an embedded system with neat diagram.
   b) Write an ALP program to interface an LCD with 8051 microcontroller.
      OR

16. a) Write an 8051 ALP program to run a 4-step stepper motor with a delay.
   b) What is embedded C programming? Explain its various features.