08/11/17 - AN

Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 50490

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2017
Sixth Semester
Electrical and Electronics Engineering
EE6602 – EMBEDDED SYSTEMS
(Common to Electronics and Instrumentation Engineering, Instrumentation and Control Engineering)
(Regulations 2013)

Time : Three Hours | Maximum : 100 Marks

Answer ALL questions

PART – A (10×2=20 Marks)

1. Draw the block diagram of embedded system.
2. What is the need for a watchdog timer ?
3. How can we classify the I/O devices ?
4. Draw the data framework of I^2C bus.
5. What is meant by DFG ?
6. Give the purpose of state machine model.
7. Define Semaphore signalling.
8. What do you understand by real-time scheduling ?
9. Mention any 4 real time embedded processor based applications.
10. What are the basic requirements while designing an embedded system ?

PART – B (5×16=80 Marks)

11. a) List and explain the hardware units that must be present in the embedded systems.

(OR)

b) Explain the various form of memories present in an embedded system.

12. a) Describe serial bus communication protocol using I^2C bus.

(OR)

b) Explain the CAN architecture with neat diagram.

13. a) Explain embedded product development life cycle.

(OR)

b) Enumerate state machine model for the seat belt alarm system.

14. a) Explain Task, Process and Thread with their types and examples.

(OR)

b) Describe rate monotonic scheduling with example.

15. a) Explain a detailed case study on designing a smart card.

(OR)

b) Brief about the case study on adaptive cruise control in an automobile with class diagram.