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

# Question Paper Code : 40973

28/04/18 AN

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2018

Seventh/Eighth Semester

Electronics and Communication Engineering

EC 6703 – EMBEDDED AND REAL TIME SYSTEMS

(Common to Biomedical Engineering/Computer Science and Engineering/ Electronics and Communication Engineering/Medical Electronics)

(Regulations 2013)

Time : Three Hours | Maximum : 100 Marks

Answer ALL questions

PART – A (10×2=20 Marks)

1. What are the basic sources of CMOS power consumption ?
2. List the functions of ARM processor in supervisory mode.
3. Differentiate Harvard and Von Neumann architecture.
4. What is the basic building block of most bus protocol ?
5. Define context switching in RTOS.
6. Illustrate the interconnect networks developed for distributed embedded systems.
7. What do you mean by accelerators in embedded multiprocessor ?
8. Mention the goals of design process in embedded computing systems.
9. Determine the requirements of block motion estimator.
10. What are data compressors ?

PART – B (5×16=80 Marks)

11. a) Explain model train controller with the frame format of DCC.

(OR)

b) Describe the different factors involved in embedded system design process.

12. a) i) Describe about the basic types of memory components that are commonly used in embedded systems. (8)

ii) Explain models of the program with no conditionals. (8)

(OR)

b) Outline the role of assemblers and linkers in the compilation process.

13. a) i) Elucidate on scheduling policies with suitable examples. (8)

ii) Summarize the services of operating system in handling multiple tasks and multiple processes. (8)

(OR)

b) With neat sketch, explain the interprocess communication mechanism.

14. a) Observe in detail about Quality Assurance Process using the following :

i) Quality Assurance Techniques. (8)

ii) Verifying the specifications. (8)

(OR)

b) Discuss about the distributed embedded architecture.

15. a) i) Demonstrate in detail about design example of audio player. (8)

ii) Summarize the principle and operation of software MODEM. (8)

(OR)

b) Demonstrate the sequence diagram of taking picture with digital still camera.