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

Question Paper Code: 47404

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2021

Seventh Semester

Electronics and Communication Engineering

14UEC704 EMBEDDED AND REAL TIME SYSTEMS

(Regulation 2014)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. ARM processors are basically designed for _____

    (a) Main frame systems   (b) Distributed systems

    (c) Mobile systems   (d) Super computers

2. ARM7 is a _____ processor with _____Architecture

    (a) RISC, Harvard   (b) CISC, Von Neumann

    (c) RISC, Von Neumann   (d) CISC, Hardvard

3. A large memory is compressed into a small one by using _____

    (a) LSI semiconductor   (b)VLSI semiconductor

    (c) CDR semiconductor   (d) MSI semiconductor

4. Executable binary file generation is carried out by

    (a) Assembler   (b) Loader   (c) Linker   (d) Compiler

5. If the period of process is P,then the rate of the task is_____

    (a) P^2 (b) 2P   (c) 1/P   (d) P

6. The priorities that change during execution is

    (a) Static   (b) Dynamic   (c) Both   (d) None

7. The interconnect network used in automotive electronics is

    (a) I^2C (b) Ethernet   (c) Internet   (d) CAN

8. Internet enabled network has applications in

    (a) Hard Real time   (b) Soft Real Time   (c) In both a & b   (d) Non Real Time

9. Software Modem utilizes

    (a) PSK   (b) ASK   (c) FSK   (d) QPSK

10. Huffman coding is used for_____

    (a) Text compression   (b) Video compression

    (c) Image compression   (d) File compression

PART - B (5 x 2 = 10 Marks)

11. Compare CISC and RISC processors.

12. Write short notes on DMA.

13. Define context switching.

14. Give examples of internet enabled systems.

15. Infer H/W and S/W co-design and state its need.

PART - C (5 x 16 = 80 Marks)

16. (a) Discuss the embedded system design process in detail.   (16)

Or

    (b) With necessary coding & examples, explain how flow of control is changed using Branch instruction in ARM Processor   (16)

17. (a) Elaborate in detail about the different types of Memory devices with neat sketch (16)

Or

    (b) Discuss in detail about the basic compilation process.   (16)

18. (a) Describe any two scheduling policies used in multiprocessor environment (16)

Or

(b) Illustrate Rate Monotonic algorithm with an example given below and compare it with EDF. (16)

Process	Execution time	period
P1	1	4
P2	2	6
P3	3	12

19. (a) Discuss in detail about internet enabled systems with neat sketch. (16)

Or

(b) Elaborate Internet enabled operation and state applications. (16)

20. (a) With a neat diagram, Describe how Personal Digital Assistant and data compressor are designed (16)

Or

(b) Elaborate the embedded design with the example of Data compressor. (16)

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