Set-02

Total No. of Questions – [09] Total No. of Printed Pages: 2

G.R. No.	

DECEMBER 2018 / END-SEM

F. Y. M. TECH. (E&TC) (SEMESTER - I)

COURSE NAME: Advanced Embedded Processors and Programming

COURSE CODE: ETPA11182

(PATTERN 2018)

Time: [3 Hour] [Max. Marks: 50]

(*) Instructions to candidates:

1) **Answer Q.1, Q.2, Q.3, Q.4 OR Q.5, Q.6 OR Q.7, Q.8 OR Q.9**
2) **Figures to the right indicate full marks.**
3) **Use of scientific calculator is allowed.**
4) **Use suitable data where ever required.**

Q.1) a) What are typical non-RISC features of RISC architecture? [3 marks]

OR

b) What are selection criterions of selection of memory in embedded applications? [3 marks]

Q.2) a) What is typical classification of processor architecture? [3 marks]

OR

b) Which method is used to reduce data hazards in pipeline architecture? [3 marks]

Q.3) a) Justify cortex architecture popularity in embedded systems. [2 marks]

OR

b) What is A-R-M profile in cortex? [2 marks]

Q.4) a) Why RTOS is required in embedded application? Which alternative software architectures are used in embedded systems? [8 marks]

Q.4) b) What are the requirements of architecture for porting operating system onto it? [6 marks]

OR

Q.5) a) What are different types of RTOS? Compare pros and cons for these types? [8 marks]

Q.5) b) With the help of suitable example explain CUDA programming model. [6 marks]

Q. 6) a) What is device driver? Explain typical structure of device driver [8 marks]

Q. 6) b) What are different file systems used in embedded Linux? Explain any two file systems? [6 marks]

OR

Q.7) a) Explain steps of porting linux on ARM architecture [8 marks]

Q.7) b) What is use of following utilities in embedded linux development?
1. Minicom 2. Libc 3. Busybox [6 marks]

Q.8) a) What is Arduino? Explain typical application program structure. [8 marks]

Q.8) b) Explain features of Arduino UNO board. [6 marks]

OR

Q.9) a) What is significance of Arduino Library? Explain various components in standard library used for application development. [8 marks]

Q.9) b) With hardware interfacing diagram and application software, explain data acquisition and control system for temperature monitoring [6 marks]

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