

Total No. of Questions – [06]

Total No. of Printed Pages: 1

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| G.R. No. |  |
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**DECEMBER 2021 - ENDSEM EXAM**  
**B. TECH. (E&TC) (SEMESTER - I)**  
**COURSE NAME: Embedded Systems**  
**COURSE CODE: ETUA40181C**  
**(PATTERN 2018)**

Time: [1Hour]

[Max. Marks: 30]

**(\*) Instructions to candidates:**

- 1) Answer Q.1 OR Q.2, Q.3 OR Q.4, Q.5 OR Q.6.
- 2) Figures to the right indicate full marks.

Q.1 a) Justify suitability of ucos-II RTOS for embedded system development. [4]

Q.1 b) Illustrate any two multitasking methods used in ucos-II. [6]

OR

Q.2 a) Interpret the advantage of using OSTaskCreateExt () against OSTaskCreate () [4]

Q.2 b) With the help of any three TCB fields, Illustrate the control established in multitasking operation in ucos-II based application [6]

Q.3 a) Analyze the need of basic components of embedded Linux. [4]

Q.3 b) Explain the typical embedded Linux set up for application development. [6]

OR

Q.4 a) Justify the suitability of journaling Flash file system for embedded application [4]

Q.4 b) Deduce the advantages of loadable kernel module usage in embedded application [6]

Q.5 a) Illustrate the need of real time component in underground tank monitoring system. [4]

Q.5 b) Justify the usage of PID control in Automatic cruise control system [6]

OR

Q.6 a) Demonstrate control algorithm in Automated Cruise Control system. [4]

Q.6 b) Illustrate any three requirements to be adopted for underground tank monitoring system to be real time [6]