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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

B. Tech IV Year II Semester Advanced Supplementary Examinations October-2020

REAL TIME OPERATING SYSTEMS

(Electronics & Communication Engineering)

Time: 3 hours

Max. Marks: 60

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

- 1** Write short notes on i) reactive systems ii) time driven iii) Deadline Driven real Time systems **12M**

OR

- 2 a** Explain various Modeling /verifying tools used for the development of Real time systems. **6M**
- b** Discuss working of ATM with help of UML Tool. **6M**

UNIT-II

- 3** Briefly explain about Hardware and software selection criteria in real time systems. **12M**

OR

- 4** Explain in brief about the following concepts with examples. **12M**
- i) Pipeline processing ii) Parallelism technique

UNIT-III

- 5 a** What is the need of communication protocols? **4M**
- b** Explain in brief about Role of peripherals for Real time systems. **8M**

OR

- 6** Explain the following real time interfacing peripherals **12M**
- i) Pulse width modulation (PWM) ii) Timers iii) Multimedia cards.

UNIT-IV

- 7 a** What is RTOS? Give one practical example where RTOS is used? **8M**
- b** Explain about Architecture of RT kernel. **4M**

OR

- 8** Define Task Control Block? Explain about attributes of TCB. **12M**

UNIT-V

- 9 a** What is Task synchronization? Explain it. **6M**
- b** What is need of Synchronization? **6M**

OR

- 10** Explain following elements of RTOS. **12M**
- i) Message Mailboxes ii) Message Queues iii) Pipes

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