SE - 219

Seat No.	

Total No. of Pages : 2

B.E. (C.S.E.) (Part - IV) (Semester - VIII) Examination, November - 2018

REAL - TIME OPERATING SYSTEMS (Revised) (New)

Sub. Code : 67826

Day and Date : Wednesday, 14 - 11 - 2018 **Total Marks : 100**

Time : 10.00 a.m. to 01.00 p.m.

Instructions : **1)** **Attempt any three questions from each section.**

2) **Figures to the right indicate full marks.**

SECTION-I

Q1) a) What is a firm real time system ? What are different issues in designing Firm real time system **[8]**

b) What is an Event in real time systems? Explain synchronous and Asynchronous events in real time systems. **[8]**

Q2) a) With block diagram explain how peripheral devices are connected to the CPU using programmable interrupt controller. **[8]**

b) What are watchdog timers? How the performance in real time systems is enhanced by modifying the architecture? **[8]**

Q3) a) What is priority inversion problem ? How it is solved ? **[8]**

b) Using suitable example explain Deadlock ? How it is avoided ? **[8]**

Q4) Write Short Notes of Following (Any Three) **[3 × 6 = 18]**

a) Polled loop

b) Context Switching

c) Background Processing

d) Task Control Block Model

P.T.O.

SECTION-II

Q5) a) What are Statecharts ? State various components of statecharts. How concurrency is represented? **[8]**

b) How requirement document is organized for real time systems? How requirements are validated? **[8]**

Q6) a) Explain dynamic memory allocation in procedural languages is achieved? **[8]**

b) What is real time Java ? How it is implemented ? **[8]**

Q7) a) Explain modified algorithm for Halstead metrics ? How limitations of McCabe's metrics is overcome in Halstead metrics? **[8]**

b) What are Function points ? How Function point value is calculated? **[8]**

Q8) Write Short Note on (Any Three) **[3 × 6 = 18]**

a) Special Real Time Languages

b) Line of Code

c) Features of RT Linux

d) Detailed COCOMO