VEER SURENDRA SAI UNIVERSITY OF TECHNOLOGY (VSSUT), ODISHA
Mid Semester Examination, November-2019

COURSE NAME: B. Tech.

SEMESTER: 7TH

BRANCH: COMPUTER SCIENCE & ENGINEERING

SUBJECT NAME: Embedded & Real Time System

FULL MARKS: 20

TIME: 2 HOURS

Answer all Questions
The figures in the right-hand margin indicate Marks. *Symbols carry usual meaning.*

Q1. Answer all Questions: [1X5]
- a) Differentiate between hard real-time and soft real-time system.   CO1
- b) List the important building blocks of an embedded system.   CO1
- c) List various application areas of embedded systems and give examples for each application area.   CO1
- d) Define mailbox with the help of a diagram.   CO2
- e) Define message queue with the help of a diagram.   CO2

Q2.

a) What are the special considerations in designing embedded systems?   [5]   CO1

OR

b) What is an embedded system? Differentiate between general purpose computing system and an embedded system.   CO1

Q3.

a) Explain Round-Robin algorithm with the help of a diagram multimeter. Write a 'C' code using switch condition.(majority)   [5]   CO2

OR

b) Explain Round-robin with interrupts along with a C program.   CO2

Q4.

a) Write the characteristics of RTOS. Differentiate between Monolithic kernel and Microkernel.   [5]   CO2

OR

b) Draw task state diagram and explain. What is task scheduling?   CO2