Reg No.:_____   Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
SIXTH SEMESTER B.TECH DEGREE EXAMINATION(S), DECEMBER 2019

Course Code: EC308
Course Name: Embedded Systems

Max. Marks: 100   Duration: 3 Hours

PART A
Answer any two full questions, each carries 15 marks   Marks

1 a) Describe the various hardware and software components used in embedded system design.   (8)

   b) Define the frame structure and various data transfer modes in HDLC.   (7)

2 a) With a suitable example, explain the various stages of embedded system design process.   (7)

   b) With neat sketches, explain the working principle of CAN Bus.   (8)

3 a) Describe the various types of Embedded system Development Life-Cycle Models   (8)

   b) Explain the frame structure of I2C bus   (7)

PART B
Answer any two full questions, each carries 15 marks

4 a) With neat sketches, discuss the various operations in DMA Controllers   (10)

   b) List the features of Embedded C++   (5)

5 a) Discuss the use of ISR in the case of automatic chocolate vending machine   (5)

   b) Comment on the various debugging techniques used in embedded system design   (10)

6 a) With the help of an example, explain the functions of device drivers for on board bus   (7)

   b) Distinguish between clear-box and black box testing methods in embedded system. List suitable examples.   (8)

PART C
Answer any two full questions, each carries 20 marks

7 a) Describe the structure of a Process control block (PCB).   (10)

   b) Explain the memory allocation related functions in Micro C/OS-II   (10)

8 a) Discuss the concept of inter process communication   (10)

   b) Comment on the basic features of VxWorks RTOS   (10)

9 a) Describe the use of mail boxes and remote procedure calls   (10)

   b) Explain briefly the process management with its states   (10)