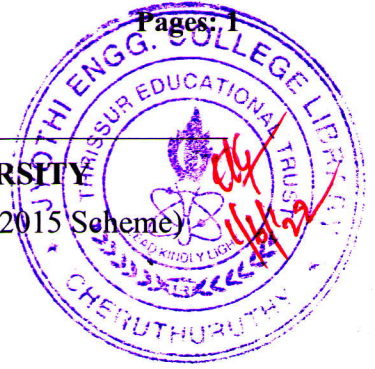D

Reg No.:_____   Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
Sixth Semester B.Tech Degree (S,FE) Examination May 2022 (2015 Scheme)

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 any 3 Life-Cycle Models for Embedded System Development.   (9)

   b) Explain the various types of transfers in USB Bus.   (6)

2 a) Explain the 5 stagepipeline architecture of ARM 9TDMI processor.   (10)

   b) Explain CPU bus organization and protocol in detail.   (5)

3 a) Discuss the frame structure and various data transfer modes in HDLC.   (9)

   b) Describe the importance of advanced software in the smoothening of an   (6)
      embedded system using examples.

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

4 a) Explain the components of SoC with an example.   (8)

   b) Discuss how DMA Controller helps in increasing performance of a system.   (7)

5 a) Debugging techniques serve as an essential tool in determining the accuracy of an (9)
      embedded system design. Comment.

   b) Explain the function of device drivers for handling ISR.   (6)

6 a) Describe the different methods used for software testing.   (7)

   b) Summarize the features of Embedded C++.   (8)

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

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

   b) Describe the use of mailbox and Remote Procedure Call.   (10)

8 a) Discuss the concept of inter process communication focussing on   (10)
      synchronization.

   b) What is shared data problem? In what way that can be avoided?   (10)

9 a) Explain briefly the concept of process management and device management.   (10)

   b) What is kernel? Explain any 2 types of kernel architectures.   (10)

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