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Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Sixth Semester B.Tech Degree Regular and Supplementary Examination July 2021



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) What is an embedded system? | (3) |
| b) Explain the frame format of HDLC protocol. | (5) |
| c) Explain embedded system design process. | (7) |
| 2 a) Explain about PCI and PCI-X bus. | (7) |
| b) Explain CPU bus organization and protocol in detail. | (8) |
| 3 a) Explain I2C serial bus protocol. | (7) |
| b) Write short notes on a) CAN and b) ISA | (8) |

PART B

Answer any two full questions, each carries 15 marks

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|---|-----|
| 4 a) Explain in detail the device drivers for interrupt handling. | (7) |
| b) Write short notes on white box testing. | (3) |
| c) List the features of embedded JAVA. | (5) |
| 5 a) Explain the working of DMA with necessary block diagram. | (7) |
| b) Explain about SOC with example. | (5) |
| c) What is meant by software validation? | (3) |
| 6 a) What are the principles of software implementation? | (5) |
| b) Explain the concept of ISR. | (7) |
| c) Explain debugging in embedded software. | (3) |

PART C

Answer any two full questions, each carries 20 marks

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|---|-----|
| 7 a) Explain about inter processor communication. | (7) |
| b) Explain about RPC. | (6) |
| c) Explain process management in embedded system. | (7) |

- 8 a) Explain device management in embedded system. (7)
- b) What are the system level functions in embedded system? (6)
- c) Discuss tasks and threads states in detail. (7)
- 9 a) Explain the different types of semaphores. (8)
- b) Explain the memory allocation related function of RTOS. (7)
- c) List popular RTOS with Example. (5)
