

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
SIXTH SEMESTER B.TECH DEGREE EXAMINATION(R&S), MAY 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) Enumerate essential functional blocks of an embedded system. | (5) |
| | b) With necessary diagrams, explain the bus architecture of ARM 9 processor. | (10) |
| 2 | a) What is meant by DDLC model? Explain in detail | (8) |
| | b) Explain any two serial communication standards used in embedded systems. | (7) |
| 3 | a) Compare serial communication with parallel communication | (5) |
| | b) Write short note on a) USB b) CAN | (10) |

PART B

Answer any two full questions, each carries 15 marks

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|---|--|------|
| 4 | a) Explain the function of device drivers for handling ISR | (5) |
| | b) With necessary diagrams, explain the events occur during an interrupt operation | (10) |
| 5 | a) Explain the working of Memory device drivers. | (8) |
| | b) What are the features of Embedded C++ ? | (7) |
| 6 | a) With a suitable example, differentiate between testing and validation | (5) |
| | b) What is meant by SoC? Explain with an example. | (10) |

PART C

Answer any two full questions, each carries 20 marks

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|---|--|------|
| 7 | a) How does an RTOS semaphore protect data? Explain by giving an example | (10) |
| | b) With suitable examples, explain the terms i) Rate Monotonic Approach | (10) |
| | ii) EDF Approach | |
| 8 | a) Explain remote procedure call with an example. | (10) |
| | b) With a diagram, explain process management in an embedded OS. | (10) |
| 9 | a) Explain the memory allocation related functions of RTOS | (10) |
| | b) Explain Task Service functions in RTOS | (10) |
