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| **Scheme of Valuation/Answer Key**(Scheme of evaluation (marks in brackets) and answers of problems/key) |
| **APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**SIXTH SEMESTER B.TECH DEGREE EXAMINATION, APRIL 2018 |
| **Course Code: EC366** |
| **Course Name:Real Time Operating Systems** |
| Max. Marks: 100 |  | Duration: 3 Hours |
| **PART A** |
|  |  | ***Answer any two full questions, each carries 15 marks*** | Marks |
| 1 | a) | Diagram – 2 marks, Explanation – 6 marks | (8) |
|  | b) | 4 points – 4 marks | (4) |
|  | c) | Problem – 1.5 marks, Solution – 1.5 marks | (3) |
| 2 | a) | Explanation - 5 marks | (5) |
|  | b) | SJF scheduling with Gantt chart, average waiting time and turnaround time – 4 marksPriority scheduling with Gantt chart, average waiting time and turnaround time – 4 marksComparison statement – 2 marks | (10) |
| 3 | a) | Monolithic structure - 1.5 marks, Explanation – 4.5 marksLayered structure - 1.5 marks, Explanation – 4.5 marks | (12) |
|  | b) | Comparison – 2 marks, Examples – 1 mark | (3) |
| **PART B** |
| ***Answer any two full questions, each carries 15 marks*** |
| 4 | a) | 4 methods – 2 marks each | (8) |
|  | b) | Diagram – 2marks, Explanation – 5 marks | (7) |
| 5 | a) | Critical section explanation – 3 marks, Atomicity – 2 marks | (5) |
|  | b) | LRU replacement – 5 marksOptimal replacement- 5 marks | (10) |
| 6 | a) | Structure : Diagram – 2 marks, Description of each block – 2 marks | (4) |
|  | b) | Explanation of dining philosopher problem – 3 marksSolution code– 4 marksCode explanation – 4 marks | (11) |
| **PART C** |
| ***Answer any two full questions, each carries 20 marks*** |
| 7 | a) | VxWorks- Message queue (primary mechanism), also supports pipe, signals, sockets------------ 6 MarksMicroC/OS- Mailbox and message queue---------------- 6 Marks | (12) |
|  | b) | 3 methods – 8 marks | (8) |
| 8 | a) | 4 marks each. 3x4=12 marks | (12) |
|  | b) | 3 methods – 10 marks | (8) |
| 9 | a) | Diagrams – 4 marks, Explanation – 6 marks | (10) |
|  | b) | Block diagram – 3 marks, Explanation – 3 marks, Example – 4 marks  | (10) |
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