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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 marks  Priority scheduling with Gantt chart, average waiting time and turnaround time – 4 marks  Comparison statement – 2 marks | | | (10) |
| 3 | a) | Monolithic structure - 1.5 marks, Explanation – 4.5 marks  Layered 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 marks  Optimal replacement- 5 marks | | | (10) |
| 6 | a) | Structure : Diagram – 2 marks, Description of each block – 2 marks | | | (4) |
|  | b) | Explanation of dining philosopher problem – 3 marks  Solution code– 4 marks  Code 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 Marks  MicroC/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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