**A) Rate Monotonic Scheduling (RMS) Algorithm**

**Priority Assignment**

* **P1** has a period of 100 ms (lower priority).
* **P2** has a period of 60 ms (higher priority).

**Gantt Chart for RMS**

| **Time (ms)** | **Process** |
| --- | --- |
| 0 | P2 |
| 10 | P2 |
| 20 | P2 |
| 30 | P2 |
| 40 | P2 |
| 50 | P2 |
| 60 | P1 |
| 70 | P1 |
| 80 | P1 |
| 90 | P1 |
| 100 | P1 |
| 110 | P1 |
| 120 | P1 |

* **Execution Order**: P2 executes first for its burst time, followed by P1.

**B) Earliest Deadline First Scheduling (EDFS) Algorithm**

**Deadline Calculation**

* **P1**: Deadline at 100 ms
* **P2**: Deadlines at 60 ms, 120 ms (it repeats every 60 ms)

**Gantt Chart for EDFS**

| **Time (ms)** | **Process** |
| --- | --- |
| 0 | P2 |
| 10 | P2 |
| 20 | P2 |
| 30 | P1 |
| 60 | P2 |
| 70 | P2 |
| 100 | P2 |

* **Execution Order**: P2 executes until its first deadline, then P1 executes, followed by P2 again.

**Brief Calculations**

**RMS Waiting Time Calculation**

* **P1**:
  + Completion Time = 90 ms
  + Turnaround Time = 90 ms - 0 ms = 90 ms
  + Waiting Time = 90 ms - 20 ms = 70 ms
* **P2**:
  + Completion Time = 60 ms
  + Turnaround Time = 60 ms - 0 ms = 60 ms
  + Waiting Time = 60 ms - 30 ms = 30 ms

**EDFS Waiting Time Calculation**

* **P1**:
  + Completion Time = 30 ms
  + Turnaround Time = 30 ms - 0 ms = 30 ms
  + Waiting Time = 30 ms - 20 ms = 10 ms
* **P2**:
  + Completion Time = 70 ms
  + Turnaround Time = 70 ms - 0 ms = 70 ms
  + Waiting Time = 70 ms - 30 ms = 40 ms

### C) Calculate Total Waiting Time for P1 & P2

**Waiting Time Calculation**

| **Process** | **Completion Time** | **Turnaround Time** | **Waiting Time** |
| --- | --- | --- | --- |
| P1 | 90 ms (RMS) | 90 ms - 0 ms = 90 ms | 90 ms - 20 ms = 70 ms |
| P2 | 60 ms (RMS) | 60 ms - 0 ms = 60 ms | 60 ms - 30 ms = 30 ms |
| P1 | 30 ms (EDFS) | 30 ms - 0 ms = 30 ms | 30 ms - 20 ms = 10 ms |
| P2 | 70 ms (EDFS) | 70 ms - 0 ms = 70 ms | 70 ms - 30 ms = 40 ms |

**Total Waiting Times**

* **Total Waiting Time for P1**:
  + RMS: 70 ms
  + EDFS: 10 ms
* **Total Waiting Time for P2**:
  + RMS: 30 ms
  + EDFS: 40 ms

**D) Calculate Total Turnaround Time for P1 & P2**

**Turnaround Time Calculation**

| **Process** | **Turnaround Time (RMS)** | **Turnaround Time (EDFS)** |
| --- | --- | --- |
| P1 | 90 ms | 30 ms |
| P2 | 60 ms | 70 ms |

**Total Turnaround Times**

* **Total Turnaround Time for P1**:
  + RMS: 90 ms
  + EDFS: 30 ms
* **Total Turnaround Time for P2**:
  + RMS: 60 ms
  + EDFS: 70 ms