SET: B

SUBJECT: CS 239 Operating System

Time: 50 MIN.

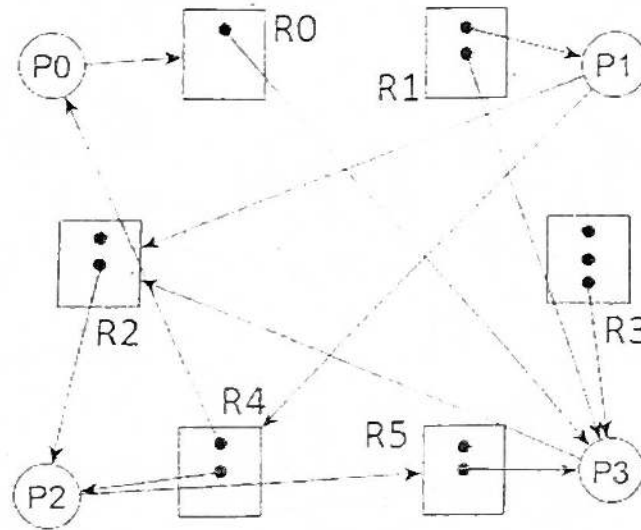**Sem.:** IV   **Branch:** CSE   Session: SP/25   **Full Marks: 10**

Q. 1. Consider the following resource allocation graph. Draw the **Wait-For-Graph (WFG)** for this RAG graph. [2 Marks]

Q.2 Consider a computer system with a 32-bit logical address and 8-KB page size. The system supports up to 1024 MB of physical memory. What is the size of the page table if the page table structure is:

i.   A conventional single-level page table

ii. An inverted page table   [2 marks]

Q. 3. Assuming a 1-KB page size, what are the page numbers and offsets for the following address references (provided as decimal numbers): [2 marks]

a. 3085,   b. 42095   c. 215201   d. 650000

Q.4. A program is executed with segmentation, and the segment table is as follows:

Segment	Base Address	Limit (Size in Words)
0	5000	200
1	10000	300
2	15000	250
3	25000	800

Check whether the following **logical addresses** are valid. If valid, compute the **physical address**.

a. (0. 199)   b. (1. 310)   c. (2, 150)   d. (3, 900)   e.   (2. 260)

Q.5. Write the short notes (in two lines) on the following terms: [2 marks]

a.   Prepaging   b.   Hit Ratio