End Semester Examination of Semester–III, 2015
Subject : COMPUTER SCIENCE (HONS)
Paper : VI (Theory) (UG)
Full Marks : 40
Time : 2 Hrs

The figures in the margin indicate the marks corresponding to the question

Candidates are requested to give their answers in their own word as far as practicable.

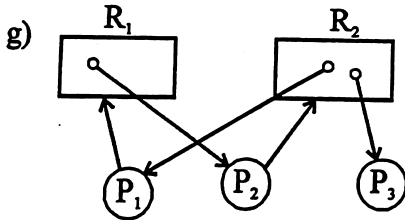*Illustrate the answers wherever necessary.*

M1 : Operating System

Group A

Answer **any five** questions: 5×2=10

1. a) Define race condition.

   b) What are the function of Kernel?

   c) What is virtual memory?

   d) What is the difference between Paging and Segmentation?

   e) What are the advantages of RISC Processor?

   f) What is child process?

g)

Draw the wait for graph for the above RAG?

Group B

Answer **any one** question :   1x10=10

2. a) Explain Booth's multiplication algorithm with suitable example.   7

   b) What do you mean by preemptive and non-premptive scheduling?   3

3. a) What is Semaphox? Explain producer consumer problem using Semaphose.   5

   b) Briefly explain the critical section problem? Mention the criteria which must be satisfy to solve the critical section problem.   2+3

M2 : Computer Organization and Architecture

Group C

Answer **any five** question :   5x2=10

4. a) What is tri-state logic gate?

   b) What is instruction cycle and machine cycle?

c) What is Cache memory?

d) What is daisy-chainning?

e) Why page sizes are always Power of z?

f) What is Starvation and aging?

g) What is MAR and MBR?

Group D

Answer **any one** question :   1x10=10

5. a) What is the difference between Microprogrammed Control Unit and Hardwired Control Unit? What do you mean by interleaved memory?   3+2

   b) What is instruction cycle? Give the data-path of fetch cycle?   1+4

6. a) What is resonance allocation graph? 'A safe state is not a deadlock state. Conversely, a deadlock state is an unsafe state. But, not all unsafe states are deadlock'—Justify.   5

   b) How many Page faults occur for the following references string for 3-page frames :   5
   1, 2, 3, 4, 5, 3, 4, 1, 6, 7, 8, 7, 8, 9, 7, 8, 9, 5, 4, 5, 4, 2
   Using LRV Page replacement algorithm.

———————