(ii) **Questions** : **9**   **Sub. Code :** `0 1 5 8`

Exam. Code : `0 0 0 2`

B.A./B.Sc. (General) 2ⁿᵈ Semester

1059

COMPUTER SCIENCE

Paper–CS03 : Theory–A, Operating System Concepts

Time Allowed : Three Hours]   **[Maximum Marks : 30**

Note :— Attempt **five** questions in all, Question No. **IX** (Unit-V) which is compulsory and selecting **one** question from each Unit I-IV.

UNIT—I

I.   What is the difference between hardware and software ? What are the components of an Operating System ?   6

II. Explain the activities of an Operating System for each function :—

   (a)   Management of the processor

   (b)   Management of the RAM

   (c)   Management of execution of application.   6

UNIT—II

III. What are the principles that must be considered while selection of a scheduling algorithm ?   6

IV. Find out which algorithm among FCFS, SJF and Round Robin with quantum 10, would give the minimum average time for a given workload ?   6

V. What is the purpose of Banker Algorithm for deadlock problem ? Explain with example. 6

VI. What are the resource allocation graph ? What are uses of these graphs ? Explain with example. 6

UNIT—IV

VII. Discuss the various criteria for a memory management policy. Explain with an example of Paging. 6

VIII. Compare the FIFO and LRU page replacement algorithms. 6

UNIT—V

IX. Answer the following questions in brief :—

   (a)   What is buffering ?

   (b)   What is the main difference between Network and Distributed Operating System ?

   (c)   What is GRACEFUL DEGRADATION ?

   (d)   What is Scheduler ?

   (e)   What is the disadvantage of virtual memory ?

   (f)   What are the fields of PCB ? $6 \times 1 = 6$