M.Sc. (Part–I) Semester–I (C.B.C.S. Scheme) Examination
COMPUTER SOFTWARE (OLD) (UPTO WINTER-2018)
(Operating System)
Paper–II

Time : Three Hours] [Maximum Marks : 80

Note :— (1) All questions are compulsory.
(2) Use suitable data wherever required.

1. (A) What is buffer cache ? Give its advantages and disadvantages. 8
   (B) Explain the function of kernel in UNIX operating system. 8

OR

2. (A) Explain the structure of 'buffer pool'. 8
   (B) Explain the architecture of LINUX operating system. 8
3. (A) Explain the following :
   (i) Process (ii) Files 8
   (B) Explain various methods for the allocation of disk blocks. 8

OR

4. (A) What do you mean by file allocation ? Explain linked allocation. 8
   (B) Describe process states and their transitions with diagram. 8
5. (A) Explain demand paging with its data structure. 8
   (B) Explain the segmentation technique of memory management. 8

OR

6. (A) What is page fault ? Explain the steps for handling a page fault. 8
   (B) What is swapping ? Write an algorithm for allocating map space. 8
7. (A) Explain process synchronization in detail. 8
   (B) Explain Inter process communication in detail. 8

OR

8. (A) Describe Network Communication. 8
   (B) Explain Remote Procedure Calls (RPC). 8
9. (A) Explain multiprocessor system configuration with master/slave processors. 8
   (B) Describe the architecture of distributed UNIX operating system. 8

OR

10. (A) Explain multiprocessor systems in detail. 8
    (B) Explain the role of an operating system in client/server computing. 8