

**2018**

**CBCS**

**3rd Semester**

**COMPUTER SCIENCE**

**PAPER—C6T**

**(Honours)**

*Full Marks : 40*

*Time : 2 Hours*

*The figures in the right-hand margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

*Illustrate the answers wherever necessary.*

**Operating System**

1. Answer any five questions :

5×2

(a) State the functions of the operating system.

(b) Differentiate multiprogramming and multiprocessing.

*(Turn Over)*

- (c) Define API.
- (d) What is a Microkernel system structure ?
- (e) Explain the difference between a Program and a Process.
- (f) How many to many model between user and kernel thread works ?
- (g) What do you mean by system call ?
- (h) What is meant by Critical Section ?

2. Answer any four questions :

4×5

- (a) Explain Batch and Real time Operating Systems.
- (b) What is a Process Control Block ? Discuss the various process states with a diagram.
- (c) How can we prevent a system from deadlock ? Explain.
- (d) What is Semaphore ? How semaphore can be used in concurrent processes ?

- (e) Explain the difference between preemptive and non-preemptive scheduling. Can starvation occur in a non-preemptive scheduling system?
- (f) What is File System? Explain File Protection and allocation methods.

3. Answer any *one* question :

1×10

- (a) What are the differences between paging and segmentation? When does a page fault occur? Explain various page replacement strategies.
  - (b) What is disk scheduling? Explain the SCAN, C-SCAN scheduling by giving an example.
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