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**BR—494—2016**

**FACULTY OF COMPUTER STUDIES**

**M.Sc. (Second Year) (Third Semester) EXAMINATION**

**OCTOBER/NOVEMBER, 2016**

**(CBCS Pattern)**

**COMPUTER SCIENCE**

**Paper CS-305**

**(Elective-I)**

**(Advanced Operating System)**

**(Friday, 25-11-2016)**

**Time : 2.00 p.m. to 5.00 p.m.**

*Time—3 Hours*

*Maximum Marks—75*

*N.B. :— (i) All questions are compulsory.*

*(ii) Assume suitable data wherever necessary.*

*(iii) Draw neat and labelled diagrams wherever necessary.*

1. Attempt the following (any *three*) : 15

(a) Describe architecture of UNIX operating system.

(b) Explain structure of the buffer pool.

(c) Explain UNIX file system.

(d) Explain buffer header.

(e) Explain process state and transitions.

2. Solve the following (any *three*) : 15

(a) Explain structure of regular file.

(b) Explain 'OPEN' system call.

(c) Explain user ID of a process.

(d) Explain concept of 'manipulating memory'.

3. Answer the following (any *three*) : 15

(a) Explain 'process creation'.

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- (b) Explain advance memory allocation.
  - (c) Explain signal function.
  - (d) Explain 'chmod' and 'fchmod'.
4. Solve the following (any *three*) : 15
- (a) Explain interrupted system calls.
  - (b) Explain concept of managing data segments.
  - (c) Explain reliable-signal technology.
  - (d) Explain limitations on protected process.
5. Write short notes on (any *three*) : 15
- (i) Inodes
  - (ii) Interrupts and Exception
  - (iii) Sleep
  - (iv) Swapping
  - (v) Kernel variables.