

**[5060] - 811**  
**M.E. (Computer Engineering)**  
**ADVANCED UNIX PROGRAMMING**  
**(2013 Pattern) (Semester - III)**

*Time : 3 Hours]*

*[Max. Marks :50*

*Instructions to the candidates:*

- 1) Attempt any five out of 8 questions.*
- 2) Neat diagrams must be drawn wherever necessary.*
- 3) Figures to the right indicate full marks.*
- 4) Assume suitable data, if necessary.*
- 5) Use of calculator is allowed.*

**Q1)** a) Write shell script to multiply two numbers. Print two numbers and the result. Also write command to execute the shell script. **[5]**

b) Explain methods of changing file access permissions. **[3]**

c) Write Command to find specific file with specific owner. **[2]**

**Q2)** a) Explain IA-64 architecture. **[5]**

b) Explain I-node architecture. **[5]**

**Q3)** a) What is the use of virtual memory management? **[5]**

b) Explain signals SIGINIT SIGKILL, SIGTERM, SIGALRM, alarm () **[5]**

**Q4)** a) Explain different I/O models. **[5]**

b) Explain readv, writev, readn and written functions. **[5]**

**P.T.O.**

- Q5)** a) Explain msgget(), msgsnd(), msgrcv() in brief. [6]  
b) Write a short note on Message Queues. [4]
- Q6)** a) Explain different IPC types. [5]  
b) Explain working of reliable and unreliable signals. [5]
- Q7)** a) Explain RPC model in detail. [5]  
b) How message reading and writing is done in pipes. [5]
- Q8)** a) Explain different models of concurrent server design. [5]  
b) What is thread? Explain deadlock, starvation, priority inversion, busy waiting. [5]

