

**B.Tech. – VIEP – COMPUTER SCIENCE AND  
ENGINEERING (BTCSVI)**

**Term-End Examination**

**December, 2016**

00524

**BICS-026 : UNIX INTERNALS AND SHELL  
PROGRAMMING**

*Time : 3 hours*

*Maximum Marks : 70*

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*Note : Answer any seven questions. All questions carry equal marks.*

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1. Discuss the characteristics of the UNIX operating system. Draw the architecture of UNIX system and describe each layer. 10
  
2. (a) Write a shell script that accepts the file name via the command line and if the file is readable, then it counts the number of lines, words and characters in that file. 5  
(b) Write a shell script to reverse a number. 5
  
3. Explain the algorithm for assigning new nodes. 10
  
4. How is the process creation performed ? Explain with the help of an example. 10

5. Explain the Pipes concept in detail. 10
6. Write down the advantages and disadvantages of the buffer cache. 10
7. Discuss the following interprocess communication (IPC) mechanisms : 5+5
- (a) Message Passing
  - (b) Message Queues
8. What do you mean by a 'Daemon' ? Explain the function of INIT Daemon. How do you kill a Daemon ? 10
9. Explain the system BOOT and INIT processes. 10
10. Explain any *two* of the following : 5+5
- (a) Process Termination
  - (b) Shells in UNIX
  - (c) Distributed UNIX System
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