

G 601.6

(2017 and 2018 Batch)

Reg. No.

--	--	--	--	--	--	--	--

**St Aloysius College (Autonomous)**

**Mangaluru**

**B.C.A. Semester VI – Degree Examination**

**September - 2020**

**LINUX AND SHELL PROGRAMMING**

**Max Marks: 100**

**Time: 3 hrs.**

**PART – A**

**(10x2=20)**

**Answer any TEN of the following.**

1. a) What is an operating system?
- b) What are file descriptors?
- c) What is a UNIX shell?
- d) Explain uname command.
- e) How to run LINUX command in the background?
- f) What is the significance of expr command?
- g) Write the syntax of bash for loop.
- h) Explain cp command with example.
- i) What do you mean by a process?
- j) What is a shell alias?
- k) Mention the commands used for file compression in LINUX.
- l) What is the purpose of kill command?

**PART – B**

**(4x5=20)**

**Answer any FOUR of the following.**

2. Explain wc command with different options
3. Mention the recommended hardware requirements for LINUX installation.
4. Explain the features of vim editor.
5. What are file permissions in LINUX?
6. Explain soft and hard links in LINUX.
7. Explain the parent child relationship between various files in the organization of files in UNIX and give the meaning of two special directory names dot(.) and double dot(..)

**PART – C**

**Answer any ONE FULL question from each unit.**

**(4x15=60)**

**UNIT – I**

8. a) Explain the following: (8)
  - i) Booting Linux from CD/ DVD
  - ii) Creating disk partition in Linux
- b) Explain any five characteristic features of UNIX operating system. (7)
9. a) Explain the features of LINUX operating system. (8)
- b) Write a note on the various Job opportunities in LINUX and mention the roles of LINUX administrator. (7)

**Contd...2**

**UNIT – II**

10. a) Explain any five basic utility commands of UNIX. (8)  
b) Explain cat command and its multiple purposes with example. (7)
11. a) Write a note on mechanism used in UNIX to assign and view file permissions. Explain chmod in detail. (8)  
b) Explain the hierarchical file system of UNIX in detail. (7)

**UNIT – III**

12. a) Explain the different modes of vim editor and how to switch from one mode to another. (8)  
b) What do you mean by regular expression? Explain the grep command with options. (7)
13. a) Explain the following using sed command :  
i) Line addressing  
ii) Context addressing (6)  
b) Describe the vim commands used for copying, moving and deleting text. (5)  
c) Explain standard input, standard output and redirection with respect to UNIX. (4)

**UNIT – IV**

14. a) Explain branching control structures in shell programming with examples. (8)  
b) Write a shell script to count the number of vowels in a given string. (7)
15. a) Explain the following builtin commands of bash shell:  
i) exec                      ii) read (8)  
b) Write a shell program to reverse a string and check for palindrome. (7)

\*\*\*\*\*

(2017 and 2018 Batch)

G 602.6

Reg. No.

--	--	--	--	--	--	--	--	--	--

**St Aloysius College (Autonomous)**  
**Mangaluru**

**B.C.A. Semester VI – Degree Examination**  
**September - 2020**

**MOBILE COMMUNICATION**

Time: 3 hrs.

Max Marks: 100

**PART – A**

Answer any **TEN** of the following.

(10x2=20)

1. a) What is SDMA?
- b) What are the advantages and disadvantages of Infrared signal?
- c) Define localization.
- d) What are subsystems in GSM system?
- e) What is the primary goal of IEEE 802.11?
- f) What are the advantages of wireless LAN?
- g) Give examples for service scenarios identified in WATM?
- h) What are the requirements of mobile IP?
- i) Define COA.
- j) Define Snooping TCP.
- k) Explain the concept "Fast Retransmit/ Fast Recovery Transmission".
- l) What is tunneling process?

**PART – B**

Answer any **FOUR** of the following.

(4x5=20)

2. Explain the function of HLR and VLR in GSM system.
3. Explain the significance of DECT.
4. Write a short note on wireless ATM.
5. What do you mean by encapsulation and decapsulation in the context of mobile IP? Explain why these are needed.
6. What are the Applications of Mobile ad-hoc networks?
7. What is Mobile TCP? Explain selective retransmission.

**PART – C**

Answer any **ONE FULL** question from each unit.

(4x15=60)

**UNIT – I**

8. a) Explain the GSM architecture with diagram. (8)
- b) Explain hidden and exposed terminal problem and near and far terminal problem. (7)
9. a) Compare the mechanisms of SDMA, TDMA and FDMA. (8)
- b) Discuss in detail the various handover scenarios in GSM. (7)

Contd...2

**UNIT – II**

- 10. a) Explain Bluetooth with its protocol architecture. (8)
- b) Explain in detail about HIPERLAN. (7)
  
- 11. a) Explain in detail about the system and protocol architecture of IEEE (8)  
    802.11.
- b) Write a note on Mobile Quality of Service. (7)

**UNIT – III**

- 12. a) What is mobile IP? Explain how a mobile user remains online (8)  
    irrespective of his current position?
- b) Briefly explain DHCP client initialization procedure. (7)
  
- 13. a) Explain about agent discovery in Mobile IP. (8)
- b) How can the tunneling and encapsulation be performed in Mobile (7)  
    IP? Explain.

**UNIT – IV**

- 14. a) Explain Indirect TCP (I-TCP) with the help of suitable diagram. (8)
- b) Explain the architecture of wireless telephony application in detail. (7)
  
- 15. a) What is WAP? Explain Different Layers. (8)
- b) Explain Transaction Oriented TCP in detail. (7)

\*\*\*\*\*