

(2019 batch onwards)

G 601.6

Reg. No.

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

**St Aloysius College (Autonomous)**

**Mangaluru**

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

**July/August - 2022**

**LINUX AND SHELL PROGRAMMING**

**Time: 3 hrs.**

**Max Marks: 100**

**PART – A**

**Answer any TEN of the following.**

**(10x2=20)**

1. a) What is an operating system?
- b) What is process id?
- c) What is absolute and relative path?
- d) What are file permissions in Linux?
- e) How are users classified in Linux?
- f) What is Linux kernel?
- g) What are the commands used to list the directory contents and to print a file?
- h) What is the purpose of \* and ? special characters?
- i) How do you terminate a background process?
- j) What are environment variables?
- k) What are pathnames?
- l) How to remove a link in Linux?

ST ALOYSIUS COLLEGE LIBRARY  
MANGALURU- 575 003

**PART – B**

**Answer any FOUR of the following.**

**(4x5=20)**

2. What is meant by free and open source software? Explain.
3. What are the advantages of Linux Operating System?
4. What is the use of grep command? Explain with an example.
5. What are pathnames? Explain two types of pathnames with example.
6. Explain copying, moving and deleting text in Vi editor.
7. Write a shell program to reverse a number.

**PART – C**

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

**(15x4=60)**

**UNIT – I**

8. a) Explain the RPM and DEB distributions of Linux. **(8)**
- b) With a neat diagram, explain the components of Linux Kernel. **(7)**
9. a) Explain the features of Linux Operating System. **(8)**
- b) Write the steps involved in Booting from the Hard Disk. **(7)**

**Contd...2**

**UNIT – II**

10. a) Explain the commands used for compressing and archiving files. (8)  
b) Explain the commands for communicating with others. (7)
11. a) Explain hard links and soft links and the command to creating them. (8)  
b) With an example, explain the hierarchical file system. (7)

**UNIT – III**

12. a) Write a note on regular expressions. (8)  
b) Explain searching and substituting commands in Vim. (7)
13. a) Explain reading and writing of files in Vim Editor. (8)  
b) Explain how commands are given to be executed in the background. (7)

**UNIT – IV**

14. a) Write a shell script to read a file name. If the name exists and if it is a file, then display its contents in sorted order. If the name is a directory, list the directory contents. (8)  
b) Explain expr command. Write a shell program to perform arithmetic calculations using case statement. (7)
15. a) Explain the steps in process creation. (8)  
b) Explain with example the two control structures in Linux. (7)

\*\*\*\*\*

(2019 batch onwards)

G 602.6

Reg. No.

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

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

**B.C.A. Semester VI – Degree Examination**  
**July/August – 2022**

**MOBILE COMMUNICATION**

**Time: 3 hrs.**

**Max Marks: 100**

**PART – A**

**Answer any TEN of the following.**

**(10x2=20)**

1. a) What is equipment identity register?
- b) What is triangular routing?
- c) What are the basic difference between wired LAN and wireless LAN?
- d) What are the primary goals of WAP?
- e) What is Handover?
- f) What are the benefits of location information for routing in ad-hoc networks?
- g) Describe CSMA.
- h) Explain the concept of reverse tunneling
- i) What is localization?
- j) Mention the different broadcast pattern.
- k) What are near and far terminals?
- l) What is encapsulation?

ST ALOYSIUS COLLEGE LIBRARY  
MANGALURU- 575 003

**PART – B**

**Answer any FOUR of the following.**

**(4x5=20)**

2. Explain Channel types of GSM.
3. What are the requirements of mobile IP?
4. What are the advantages of indirect TCP?
5. Mention the advantages of Wireless LAN.
6. Discuss the design goals of Mobile IP.
7. With the neat sketch explain piconet and scatternet.

**PART – C**

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

**(15x4=60)**

**UNIT – I**

8. a) Explain the protocol architecture for GSM with a neat diagram. **(8)**
- b) Describe digital audio broadcasting. **(7)**
9. a) Explain DECT - System Architecture. **(8)**
- b) Explain GSM Services. **(7)**

**Contd...2**

**UNIT – II**

10. a) Explain protocol stack of Bluetooth with a neat diagram. (8)  
b) Discuss the system architecture of IEEE 802.11 ad-hoc wireless LANs. (7)
11. a) With figure explain infrastructure based wireless networks. (8)  
b) Explain reference model of wireless ATM. (7)

**UNIT – III**

12. a) Describe the process of IP Packet delivery with neat sketch. (8)  
b) Explain the different problems associated with the reverse tunneling solution. (7)
13. a) Explain client initialization procedure via DHCP. (8)  
b) With the necessary diagram explain registration of a mobile node via the foreign agent or directly with the home agent. (7)

**UNIT – IV**

14. a) Write a note on the following. (8)  
i) Wireless datagram protocol  
ii) Wireless session protocol (7)  
b) Compare and contrast indirect TCP, Snooping TCP. (7)
15. a) Explain the several mechanisms of TCP, that influence the efficiency of TCP in a mobile environment. (8)  
b) Explain transaction oriented TCP. (7)

\*\*\*\*\*

(2019 batch onwards)

G 603.6

Reg. No.

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

**St Aloysius College (Autonomous)**

**Mangaluru**

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

**July/August - 2022**

**CLOUD COMPUTING**

**Time: 3 hrs.**

**Max Marks: 100**

**PART – A**

**Answer any TEN of the following.**

**(10x2=20)**

1. a) List any four fundamental features offered by traditional network management systems to manage the cloud.
- b) What is open SaaS? Mention the advantage of open SaaS.
- c) List any four Backup types.
- d) What is virtualization in cloud computing?
- e) What is instant messaging?
- f) Describe FCPAS.
- g) List any two authorization markup languages.
- h) What is a service model?
- i) What do you mean by Iaas Workload?
- j) Expand NIST.
- k) Define security boundary in cloud computing?
- l) List the two types of cloud storages.

ST ALOYSIUS COLLEGE LIBRARY  
MANGALURU- 575 003

**PART – B**

**Answer any FOUR of the following.**

**(4x5=20)**

2. Explain Management responsibilities by service model type.
3. Explain cloud storage systems by creating virtualization layers.
4. What are the virtualization characteristics of cloud computing? List the virtualization key enabler of cloud computing.
5. Explain how the client can connect to the cloud?
6. Write a note on composability.
7. Define Securing data. List the key mechanisms for protecting data mechanisms.

**PART – C**

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

**(15x4=60)**

**UNIT – I**

8. a) With a neat diagram explain the reference model of cloud computing. **(10)**
- b) Explain the benefits and disadvantages of cloud computing. **(5)**

**Contd...2**

**G 603.6**

9. a) Explain cube model of cloud computing. (5)  
b) Explain the different service models of cloud computing. (10)

**UNIT - II**

10. a) Explain Platform as a service. (5)  
b) Explain with a diagram VMware Vsphere. Explain any 4 notable products of VMware (10)
11. a) With a neat diagram explain the implementation of SaaS using an Enterprise Service Bus and architected with SOA components. (10)  
b) Write a note on Networked identity service classes. (5)

**UNIT - III**

12. a) Explain Life cycle management of cloud computing. (5)  
b) With a neat diagram explain cloud commons and SMI. (10)
13. a) Write the analysis performance required to evaluate the risk in cloud computing model. (5)  
b) With a neat diagram explain the CSA Cloud Reference Model with security boundaries. (10)

**UNIT - IV**

14. a) List the different features of cloud backup. (5)  
b) List and explain different backup types. (10)
15. a) List and explain the ACID properties. (5)  
b) Explain virtual storage container with a neat diagram. (10)

\*\*\*\*\*