

(2019 and 2020 batch)

G 601.6

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**St Aloysius College (Autonomous)
Mangaluru**

**B.C.A. Semester VI – Degree Examination
May/June - 2023**

LINUX AND SHELL PROGRAMMING

Time: 3 hrs.

Max Marks: 100

PART – A

Answer any TEN of the following.

(10x2=20)

1. a) What is free and open source software?
- b) Define operating system.
- c) What is the role of access permissions in the Linux file system?
- d) What are Linux utilities?
- e) How do you search and substitute text in Vim?
- f) Write a command to list all the files in the current directory in Linux.
- g) What are environment variables?
- h) How do you redirect standard output to a file in Linux?
- i) What is the command line in Linux?
- j) Define pwd command with an example.
- k) How to remove a link in Linux?
- l) What are control operators in shell programming?

PART – B

Answer any FOUR of the following.

(4x5=20)

2. Discuss the advantages of Linux operating systems.
3. How do directory and ordinary files differ in Linux?
4. What are the different access permissions in Linux? Explain with examples.
5. Explain the difference between single quotes and double quotes in shell.
6. What is the use of grep command? Explain with an example.
7. Write a shell program to check given number is odd or even.

PART – C

Answer any ONE FULL question from each unit.

(15x4=60)

UNIT – I

8. a) Write the steps involved in Booting from the Hard Disk. (7)
- b) What is a Linux distribution? Explain RPM and Deb based distributions. (8)
9. a) Explain the components of Linux Kernel with a diagram. (7)
- b) Explain the process of installing Linux, selecting installation options, and partitioning the hard disk. (8)

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UNIT – II

10. a) Define file. Explain the hierarchical file system in Linux. (7)
b) Write a note on following commands : (8)
i) tar ii) zip iii) cp iv) mv
11. a) Differentiate between hard links and soft links with a syntax and suitable examples. (7)
b) Explain following commands with examples : (8)
i) cat ii) mkdir iii) chmod iv) rm

UNIT – III

12. a) Briefly explain vi editor with a neat diagram. (7)
b) What is ps command? Explain how commands are given to be executed in the background? (8)
13. a) Explain searching and substituting commands in Vim. (7)
b) Define vim editor. What are the commands to copy, move and delete text in Vim? (8)

UNIT – IV

14. a) Explain the use of functions in shell programming with examples. (7)
b) Write a shell script to check given number is palindrome or not. (8)
15. a) Write a shell script to accept a filename and check if it exists in the current directory. (7)
b) Explain the steps in process creation. (8)

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St Aloysius College (Autonomous)**Mangaluru****B.C.A. Semester VI – Degree Examination****May/June - 2023****MOBILE COMMUNICATION**

Time: 3 hrs.

Max Marks: 100

PART – A**Answer any TEN of the following.****(10x2=20)**

1. a) What are the subsystems of GSM system?
- b) What is Polling?
- c) What are the basic differences 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) Define COA.
- h) Explain the concept of reverse tunneling
- i) What are the possible locations for care-of-address?
- j) What is encapsulation?
- k) What are near and far terminals?
- l) What is triangular routing?

PART – B**Answer any FOUR of the following.****(4x5=20)**

2. Explain Channel types of GSM.
3. What is Mobile TCP? Explain selective retransmission.
4. With neat sketch, explain TETRA frame structure.
5. What are the advantages of Mobile ad-hoc networks?
6. Explain the design goals of Mobile IP.
7. Mention the advantages of Wireless LAN.

PART – C**Answer any ONE FULL question from each unit.****(15x4=60)****UNIT – I**

8. a) Briefly explain the system architecture of IEEE 802.11 **(8)**
- b) Explain classical Aloha and slotted Aloha with a neat sketch. **(7)**
9. a) Compare and contrast SDMA, TDMA and FDMA. **(8)**
- b) Explain DECT - System Architecture. **(7)**

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UNIT – II

10. a) Explain protocol stack of Bluetooth with a neat diagram. (8)
b) Explain 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) Explain encapsulation mechanism and its any two categories. (8)
b) Explain the different problems associated with the reverse tunneling solution. (7)
13. a) Explain client initialization procedure via DHCP. (8)
b) Mention the entities of mobile IP and describe data transfer from a mobile node to a fixed node. (7)

UNIT – IV

14. a) Write a note on the following.
i) Mobile ad-hoc network
ii) Wireless markup language (8)
b) Compare and contrast Indirect TCP, Snooping TCP. (7)
15. a) Explain the different mechanisms of traditional TCP. (8)
b) Explain transaction oriented TCP. (7)

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B.C.A. Semester VI – Degree Examination

May/June - 2023

CLOUD COMPUTING

Time: 3 hrs.

Max Marks: 100

PART – A

Answer any TEN of the following.

(10x2=20)

1. a) List four benefits of cloud computing.
- b) Differentiate public and private clouds.
- c) What is virtualization in cloud computing?
- d) Differentiate authentication and Authorization.
- e) What is Google App Engine?
- f) What is load balancing?
- g) What is FCAPS in Network Management Systems?
- h) What is Security Mapping?
- i) Expand CDMI and OCCI.
- j) What is encryption in cloud storage?
- k) What is cloud busting?
- l) What are micro blogs?

PART – B

Answer any FOUR of the following.

(4x5=20)

2. Explain NIST model of Cloud Computing.
3. Explain cloud communication protocols.
4. What are the main characteristics of platform-as-a-service?
5. Write a note on Identity system codes of conduct.
6. Explain Windows Azure identity standards.
7. Write a note on Instant messaging clients.

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)
9. a) Explain the different service models of cloud computing. (10)
- b) What is Composability? Explain. (5)

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UNIT - II

10. 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)
11. a) Explain IaaS based solution for cloud computing. (10)
b) Write a note on google cloud. (5)

UNIT - III

12. a) With a neat diagram explain cloud commons and SMI. (10)
b) Write a note on Identity protocol standards. (5)
13. a) With a neat diagram explain the CSA Cloud Reference Model with security boundaries. (10)
b) Write the analysis performance required to evaluate the risk in cloud computing model. (5)

UNIT - IV

14. a) List and explain different backup types. (10)
b) Write note on applications in cloud. (5)
15. a) Explain virtual storage container with a neat diagram. (10)
b) Write a note on short messaging services. (5)
