DURATION: 2 HOURS 30 MINUTES   TOTAL MARKS: 100

INSTRUCTIONS TO CANDIDATES

Answer all questions.   = OCT 202 4

Question One

a. Identify and explain **two** types of Network Operating Systems.   **[6]**

b. List any three characteristics and two potential problems of each type identified
   in (*a*).   **[10]**

c. Explains the difference between centralized and decentralized administration
                                                                             [5]

d. Explain the difference between workgroup and a domain environment
                                                                             [4]

Question Two

a. State and explain any **three** disadvantages of performing frequent full backups?
                                                                             [6]

b. Explain when a full backup can be used most effectively.   **[5]**

c. The Systems Administrator of Wilstones Investments performs the backup of the website database file every day at 1600hrs. The original file location is /mnt/hda1/www/database.sql. The Administrator copies it to /mnt/sda1/backup/ folder. Provide an automated solution for this problem. Assume that the system is running under Linux and that you have all the necessary tools installed.
   [10]

d. Explain the following list of command lines

      i.   ls -a

      ii.   pwd

      iii. cat boot.log

      iv. PATH=$PATH:/usr/sbin:/sbin   **[4]**

Question Three

a. Explain the term RAID in networking terms.   **[1]**

b. State and explain any **four** types of RAID.   **[8]**

c. In each RAID type identified in (b) explain a scenario which is most suitable to apply it.   **[8]**

d. Describe in detail, all the various important steps in the process of planning for Disaster Recovery.   **[8]**

Question Four

a.   What is a protocol?   **[2]**

b.   Explain the following protocols:

      i.   Hypertext Transfer Protocol (HTTP)

      ii.   Secure Socket Shell (SSH)

      iii.   Short Message Service (SMS)

      iv.   File Transfer Protocol   **[8]**

c.   Define the role of a firewall and draw a diagram showing where the file should be placed in a network.   **[2]**

d.   Discuss the techniques that the firewall uses at different level to prevent external attacks on the network and control traffic flow through the firewall   **[8]**

e.   Define a Data Centre and explain its core components   **[5]**

END OF PAPER