SLIATE
SRI LANKA INSTITUTE OF ADVANCED TECHNOLOGICAL EDUCATION
(Established in the Ministry of Higher Education, vide in Act No. 29 of 1995)

Higher National Diploma in Information Technology
Second Year, Second Semester Examination – 2016
HNDIT 2422 – Network & Data Center Operations

Instructions for Candidates:
Answer Any Five (05) Questions
All Questions Carry Equal Marks

No. of questions: 06
No. of pages   : 03
Time   : 03 Hours

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(01)

(a) List out two primary data center design models. (2 Marks)

(b) Why is it best to have star as physical topology in data centers? Justify your answer. (3 Marks)

(c) Cooling infrastructure consists of CRAC or CRAH, differentiate them by giving suitable points. (3 Marks)

(d) Discuss in detail the three types of server farms in data center. (6 Marks)

(e) Explain three issues faced by data centers. (6 Marks)

(Total 20 Marks)

(02)

(a) State the reason to use perforated tiles in data center. (2 Marks)

(b) What is Rack? Explain how it is measured. (3 Marks)

(c) Expand the following.

   (i) RLU

   (ii) KVM (1.5x2=3 Marks)

(d) Write three characteristics of enterprise data center and collocated data center.

(12 Marks)

(Total 20 Marks)

(03)

    (a) Define Blade server.   (2 Marks)

    (b) What do the following acronyms stand for?

        (i) VESDA

        (ii) ACLs   (1.5x2=3 Marks)

    (c) Write down two disadvantages of Overhead cable routing.   (4 Marks)

    (d) List five experts who work with data center.   (5 Marks)

    (e) Explain any two types of Virtualization.   (6 marks)

                                                  (Total 20 Marks)

(04)

    (a) Define "Hot aisle".   (2 Marks)

    (b) List two reasons for appearing hot spots in data center.   (4 Marks)

    (c) Write short notes on any three PDU types.   (6 Marks)

    (d) List five data center design criteria and explain three of them.   (8 Marks)

                                                  (Total 20 Marks)

(05)

    (a) Define Cluster.   (2 Marks)

    (b) Briefly explain the two types of racks available.   (4 Marks)

    (c) What do you mean by redundancy? How would it be essential in data center?

                                                  (5 Marks)

    (d) Plan a Data Center for small business organization with no branches. Approximately about 50 employees needed to use a PC at the same time. Consider and select only the following with justification.

        • Hardware (PCs, Servers, networking devices)

        • Windows Operating Systems

        • Virtualization Method (Type-01 or Type-02 with Virtualization applications)

                                                  (09 Marks)

                                                  (Total 20 Marks)

(06)   Write short notes on any five (05) of the following.

   (a) RedHat GFS

   (b) Cluster Logical Volume Manager (CLVM)

   (c) Cluster Administration Tools

   (d) Linux Virtual Server

   (e) Blade server vs. Rack Server

   (f) Type-01 Hypervisor vs. Type-02 Hypervisor

(Total 04 x 5 =20 marks)