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M.C.A. (Commerce Faculty) (Fifth Semester) EXAMINATION, 2016

CA-502 : DATA CENTER TECHNOLOGIES

(Credit Based System)

(2013 PATTERN)

Time : Three Hours

Maximum Marks : 50

N.B. :— (i) Out of 8 questions attempt any 5 questions.

(ii) Draw neat labelled diagram where needed.

1. Attempt All : [10]

(a) What do you mean by data center ? How is the cost of downtime calculated ? [4]

(b) Explain characteristics for an outstanding design. [4]

(c) Explain the following key terms : [2]

(i) Mean Time Between Failures (MTBF)

(ii) Mean Time To Repair (MTT).

2. Attempt All :

(a) What are the different types of air conditioning ? Explain any one in detail. [4]

(b) Explain any two SPEC benchmarks in detail. [4]

(c) What do you understand by capacity planning ? [2]

P.T.O.

3. Attempt All :

- (a) What is cluster ? Explain different types of cluster. [4]
- (b) Explain the following terms in detail : [4]
 - (i) Power conditioning
 - (ii) Single and three phase power.
- (c) How to estimate need for energy efficient HVAC system ? [2]

4. Attempt All :

- (a) What are best practices for system administration. [4]
- (b) Explain various reasons to maintain proper environment within data center. [4]
- (c) What is automation ? List the automation tools. [2]

5. Attempt All :

- (a) Write a short note on : Generators. [4]
- (b) What is physical security within data center ? [4]
- (c) What do you understand by in-band monitoring. [2]

6. Attempt All : [10]

- (a) Explain various components provided by ISP within data center. [4]
- (b) Enlist various availability choices and explain any *three* in detail. [4]
- (c) “The functional requirement of a data centre is to provide a safe and secure place for Servers, Storage and Networking equipment.” Comment. [2]

7. Attempt *All* : [10]
- (a) Which factors support to maintain high availability inside the data center ? [5]
 - (b) List out different cluster components. Explain any *three* in detail. [5]
8. Attempt *All* : [10]
- (a) What do you mean by slowest link ? How to identify it ? Explain with suitable example. [5]
 - (b) What are the drawbacks of complex cluster configuration. [5]