

TCS/TIT-812

B. TECH. (CS/IT)
(EIGHTH SEMESTER)
MID SEMESTER EXAMINATION, 2019
DATA STORAGE NETWORKS

Time : 1 : 30 Hours

Maximum Marks : 50

Note : (i) This question paper contains two Sections.

(ii) Both Sections are compulsory.

Section—A

1. Multiple choice questions : (1×5=5 Marks)

Choose the correct answer :

(a) Component which connects a disk drive to computer's bus is :

- (i) a hard disk
- (ii) a drive interface
- (iii) a sensor
- (iv) a standard

(b) Time to move read/write heads to a spot on medium is defined as the :

- (i) read time

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- (ii) transfer time
 - (iii) seek time
 - (iv) average access time
 - (c) Private network which uses storage protocol rather than networking protocol is :
 - (i) storage area network
 - (ii) local area network
 - (iii) wide area network
 - (iv) personal area network
 - (d) Port most often used to connect a keyboard to a computer is :
 - (i) firewire port
 - (ii) Wifi port
 - (iii) USB port
 - (iv) Ethernet port
 - (e) A file is scattered into pieces across surface of a disk, when it is :
 - (i) compressed
 - (ii) archived
 - (iii) defragmented
 - (iv) fragmented
2. Attempt any *five* parts : (3×5=15 Marks)
- (a) What are the benefits of Fibre Channel Sans ?

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- (b) What are the advantages of San ?
- (c) Differentiate Raid and JBOD ?
- (d) What are the advantages of Raid ?
- (e) What environment is most suitable for Fibre Channel Sans ?
- (f) What do you mean by semi structured data and unstructured data ?

Section—B

3. Attempt any *two* parts of choice from (a), (b) and (c). (5×2=10 Marks)
- (a) Explain the evolution of storage technology.
 - (b) Explain ILM implementation in detail with its benefits.
 - (c) Outline and explain in brief the parameters that will help in data centre planning phase.
4. Attempt any *two* parts of choice from (a), (b) and (c). (5×2=10 Marks)
- (a) Explain Data Proliferation. What are the problems caused by Data Proliferation ? How do you overcome them ?

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- (b) What do you mean by JBOD ? To achieve best performance and reliability, what are the three key components when choosing and configuring a JBOD ?
- (c) What do you understand by RAID ? On what three axes we will evaluate each RAID design ? Explain.
5. Attempt any *two* parts of choice from (a), (b) and (c). (5×2=10 Marks)
- (a) Explain the following with neat diagram :
- (i) RAID 0
 - (ii) RAID 1
- (b) Explain in brief “Components of Intelligent Storage System.”
- (c) With reference to acceleration in hard disk access explain the following :
- (i) Access time
 - (ii) Seek time
 - (iii) Short stroking