

Enrollment No.....



Faculty of Engineering  
End Sem Examination May-2024

IT3ED08 Information Storage & Management

Programme: B.Tech.

Branch/Specialisation: IT

Duration: 3 Hrs.

Maximum Marks: 60

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

- Q.1 i. Saving data and instructions to make them readily available is the job of \_\_\_\_\_. **1**  
(a) Storage unit (b) Cache unit  
(c) Input unit (d) Output unit
- ii. Which of the following is used in main memory? **1**  
(a) SRAM (b) DRAM (c) PRAM (d) DDR
- iii. Which storage technology uses magnetization to store data? **1**  
(a) Solid-state (b) Magnetic  
(c) Optical (d) Flash
- iv. What is the primary advantage of solid-state drives (SSDs) over traditional hard disk drives (HDDs)? **1**  
(a) Higher capacity (b) Faster data access  
(c) Lower cost (d) Greater durability
- v. Storage management comprises of- **1**  
(a) SAN Management (b) Data protection  
(c) Disk operation (d) All of these
- vi. Identify the difficulties the SAN administrator incur while dealing with diverse vendors- **1**  
(a) Proprietary management interfaces.  
(b) Multiple applications to manage storage in the data center  
(c) No single view.  
(d) All of these

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- vii. How do storage administrators ensure secure access to storage devices? **1**  
 (a) By using zoning  
 (b) By putting a physical lock on the storage device  
 (c) By keeping devices shutdown when not in use  
 (d) All of these
- viii. Effective storage management includes- **1**  
 (a) Securities (b) Backups (c) Reporting (d) All of these
- ix. Task of distributed management task force is- **1**  
 (a) To promote interoperability among the management solution providers  
 (b) Acts as an interface between the various budding technologies and provide solution to manage various environments  
 (c) Both (a) and (b)  
 (d) None of these
- x. Which protocols are used for Storage management? **1**  
 (a) SNMP (b) LDAP  
 (c) POP3 (d) All of these
- Q.2 i. Describe data proliferation. **2**  
 ii. Write various storage technologies with examples. **3**  
 iii. Write about key challenges that occur during managing the information. **5**
- OR iv. What is data categorization? Define each with suitable example. **5**
- Q.3 i. Describe disk subsystem. **2**  
 ii. Explain parity algorithm with suitable example. **8**
- OR iii. What is RAID? Define each level with its suitable example and diagram. **8**
- Q.4 i. Describe JBOD with its properties and applications. **3**  
 ii. What is network-attached storage (NAS)? Define it with suitable diagram and its working process. **7**
- OR iii. Explain direct-attached storage (DAS) with its suitable diagram and properties. **7**
- Q.5 i. Explain hybrid storage and its properties with applications. **4**  
 ii. What is storage virtualization? Write its working process with an example. **6**

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- OR iii. Explain the concept of data centre and list the used technologies to manage the storage and server smoothly. **6**
- Q.6 Attempt any two:
- i. How the information is stored on cloud? Write the working process to take the backup of that data. **5**
- ii. Write the backup and restore operations with its features. **5**
- iii. List the storage management activities and key challenges in infrastructure management. **5**

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Marking Scheme  
IT3ED08 (T) Information Storage and  
Management

Q.1	i)	(a) Storage Unit	1
	ii)	b) DRAM	1
	iii)	(b) Magnetic	1
	iv)	(b) Faster data access	1
	v)	d) All of the mentioned	1
	vi)	d) All of the mentioned	1
	vii)	a) By using Zoning	1
	viii)	d) All of the mentioned	1
	ix)	c) To promote interoperability among the management solution providers as well as acts as an interface between the various budding technologies and provide solution to manage various environments	1
	x)	a) SNMP	1
Q.2	i.	Definition 2 marks	2
	ii.	Storage technologies 2 example 1 mark	3
	iii.	Key challenges 5 points 5 marks	5
OR	iv.	data Categorization 3 marks example 2 marks	5
Q.3	i.	disk subsystem 2 marks	2
	ii.	Parity algorithm 5 marks ex 3 marks	8
OR	iii.	Raid 2 marks diff levels 6 marks	8
Q.4	i.	JBOD 3 marks	3
	ii.	NAS 4 marks dia 3 marks	7
OR	iii.	hybrid storage 2 marks appl 2 marks	4
		DAS 4 marks dia 3 marks	7

Q.5	i.	hybrid solution 2 marks appl 2 marks	4
	ii.	Storage virtualization 3 marks ex 3 marks	6
OR	iii.	Data Centre 4 marks technologies 2 marks	6
Q.6			
	i.	cloud 3 marks backup/recover 2 marks	5
	ii.	Backup & restore 5 marks	5
	iii.	Storage mgmt activities 3 marks challenges 2	5

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