Total No. of Questions: 6 *Total No. of Printed Pages:3*

Enrollment No.....

Faculty of Engineering

End Sem Examination May-2023

IT3EL03 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. Storage management comprises of- **1**

(a) SAN Management (b) Data protection

(c) Disk operation (d) All of these

ii. Effective storage management consist of? **1**

(a) Backups (b) Reporting

(c) Both (a) and (b) (d) None of these

iii. Which level of RAID refers to disk mirroring with block striping? **1**

(a) RAID level 1 (b) RAID level 2

(c) RAID level 0 (d) RAID level 3

iv. Which of the following are incorrect needs for component-based product lines? **1**

(a) More changeable system (b) More extensible system

(c) Less reliable components (d) All of these

v. A NAS solution is most appropriate for what type of data environment? **1**

(a) Secured access (b) Shared access

(c) Remote access (d) Parallel access

vi. What is the most basic level of storage? **1**

(a) SAN (b) DAS (c) NAS (d) ISCSI

vii. Simply stated, these are large boxes that hold lots of hard disks. **1**

(a) Host (b) Tape library

(c) Switch (d) Disk Array

P.T.O.

viii. Backup of the source data can be created- **1**
(a) On the same device (b) On another device
(c) At some other location (d) All of these

ix. Which of the following is a type of cloud computing service? **1**
(a) Service-as-a-Software (SaaS)
(b) Software-and-a-Server (SaaS)
(c) Software-as-a-Service (SaaS)
(d) Software-as-a-Server (SaaS)

x. Which of the following architectural standards is working with cloud computing industry? **1**
(a) Web-application frameworks
(b) Service-oriented architecture
(c) Standardized Web services
(d) All of these

Q.2 i. List the key characteristics of data center. **2**
ii. Differentiate between data and information. **3**
iii. Explain information life cycle management with suitable examples. **5**
OR iv. Discuss briefly the evolution of various storage technologies. **5**

Q.3 i. What is parity? **2**
ii. What is hot spares? What are the methods used for data recovery in hot spares. **8**
OR iii. What is RAID and describe its level? In which condition RAID level used. **8**

Q.4 i. What is the significance of gateway NAS? **3**
ii. Explain how the performance of NAS can be affected if the TCP window size at the sender and the receiver are not synchronized. **7**
OR iii. How does flow control work in an FC network? **7**

Q.5 i. Write the challenges phasing during the storage virtualization. **4**
ii. What is disaster recovery? Explain the importance of disaster recovery panning. **6**
OR iii. Explain the key management metrics. **6**

Q.6 Attempt any two:
i. Discuss the different barriers of cloud computing. **5**
ii. Explain in brief about the "Architectural Framework of Cloud Computing". **5**
iii. Explain cloud security and integration. **5**

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Marking Scheme
IT3EL03 [T] -Information Storage and Management

Q.1	i)	Storage management comprises of? d) All of the mentioned	**1**
	ii)	Effective storage management consist of? c) Both a and b	**1**
	iii)	Which level of RAID refers to disk mirroring with block striping? a) RAID level 1	**1**
	iv)	Which of the following are incorrect needs for component-based product lines? c) Less reliable components	**1**
	v)	A NAS solution is most appropriate for what type of data environment b) Shared access	**1**
	vi)	What is the most basic level of storage b) DAS	**1**
	vii)	Simply stated, these are large boxes that hold lots of hard disks. d) Disk Array	**1**
	viii)	Backup of the source data can be created d) All of the mentioned	**1**
	ix)	Which of the following is a type of cloud computing service? c) Software-as-a-Service (SaaS)	**1**
	x)	Which of the following architectural standards is working with cloud computing industry? b) Service-oriented architecture	**1**
Q.2	i.	List the key characteristics of Data Center. -2 marks	**2**
	ii.	Differentiate between data and information. -1 marks each (Max. 3 marks)	**3**
	iii.	Explain Information Life Cycle management with suitable examples. Life Cycle Diagram - 2 marks Example and explanation - 3 marks	**5**

OR	iv.	Discuss briefly the evolution of various storage technologies. -2 marks each (Max. 5 marks)	**5**
Q.3	i.	What is Parity? - 2 marks	**2**
	ii.	What is Hot Spares? What are the methods used for data recovery in hot spares. Hot Spares - 2 marks Methods for data recovery - 2 marks each (Max. 6 marks)	**8**
OR	iii.	What is RAID and describe its level? In which condition RAID level used. RAID - 2 marks Levels of RAID - 2 marks Conditions for RAID - 4 marks	**8**
Q.4	i.	What is the significance of gateway NAS? - 3 marks	**3**
	ii.	Explain how the performance of NAS can be affected if the TCP window size at the sender and the receiver are not synchronized. - 7 marks	**7**
OR	iii.	How does flow control work in an FC network? - 7 marks	**7**
Q.5	i.	Write the challenges phasing during the storage virtualization. -2 marks each (Max. 4 marks)	**4**
	ii.	What is disaster recovery? Explain the importance of disaster recovery planning. Disaster recovery -3 marks Disaster recovery planning -3 marks	**6**
OR	iii.	Explain the key management metrics. -2 marks each (Max. 6 marks)	**6**
Q.6	i.	Discuss the different barriers of cloud computing. -5 marks	**5**
	ii.	Explain in brief about the "Architectural Framework of Cloud Computing". Diagram of Architectural Framework -2 marks	**5**

[2] [3]

	Explain Cloud Computing architectural framework	-3 marks	
iii.	Explain Cloud Security and Integration.		**5**
	Cloud Security	-3 marks	
	Cloud Integration	-2 marks	

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