

Seventh Semester B.E. Semester End Examination, FEBRUARY APRIL 2022

**ENTREPRENEURSHIP AND MANAGEMENT / MANAGEMENT
AND ENTREPRENEURSHIP**

Max. Marks : 100

Time: 3 hrs

Instructions : 1. Answer any FIVE Full Questions selecting at least ONE Question from Each Unit.
2. Use suitable example wherever required.

MODULE 1

L CO PO M

- 1a. Define Management. Describe nature of management with its important characteristics. [1] [1] [1] [7]
- 1b. List the levels of management with a brief note on responsibilities associated for each of them. [2] [1] [1, 2] [7]
- 1c. Identify the importance of planning process with an example. [3] [1] [2, 3] [6]

OR

- 2a. Compare any two 'Modern management approaches' with suitable examples by considering new methods and their benefits. [2] [2] [1, 2] [8]
- 2b. Distinguish types of plans with brief note. Write the steps involved in planning process. [2] [2] [2] [7]
- 2c. Justify 'Organization Structure' suffices most of the purposes of organizing. [2] [2, 3] [2] [5]

MODULE 2

- 3a. Define the term Staffing? Explain the steps in selection process. [2] [2] [7] [8]
- 3b. Compare the two types of Leadership styles by taking various factors into considerations. [2] [2] [7, 9] [6]
- 3c. Identify and brief out various steps in control process which are necessary in its relationship with planning. [2] [2] [9] [6]

OR

- 4a. Highlight the importance of Training. Choose any two best methods of training and Explain. [3] [2] [7] [8]
- 4b. Explain Maslow's theory of Motivation. [2] [2] [7] [6]
- 4c. What is Controlling? Why Controlling is essential in Management? [2] [2] [9] [6]

MODULE 3

- 5a. Describe the concept of Entrepreneurship with example. [1] [2] [1] [5]
- 5b. List any 5 important functions of the Entrepreneur with a brief note of each of them. [2] [1, 2] [2] [8]
- 5c. Differentiate the types of Entrepreneurs with their characteristics. [3] [2] [2] [7]

OR

- 6a. Discuss a case study on any small start-up on the basis of creativity with new ideas, Also suggest the features it has towards good business opportunities. [3] [3] [3, 7] [12]

6b. Contrast the barriers for Entrepreneurship? Relate Entrepreneurship Development with Intellectual property rights and elaborate all its concerns.

[2] [2, 3] [2] [8]

MODULE 4

7a. Discuss the points which stresses the need of MSMEs for the developing countries like India.

7b. Explain how NSIC and SIDO promote MSME units throughout the country.

[3] [4] [7, 11] [10]

OR

8a. Elaborate various government policies towards development of MSMEs.

8b. Describe the role of KSFCs and KSSIDC in developing Village industries and Small industries.

[3] [4] [7, 9] [10]

MODULE 5

9a. Elaborate on contents of good Project report.

9b. Write a short note on Supply Chain Management with an example.

[3] [4] [7, 9] [10]

OR

10a. What do you mean by the term 'Project'? Discuss various ways of identifying suitable Project.

10b. What is the meaning of ERP? List and explain various functional areas related to ERP.

[2] [4] [7, 9] [10]

[2] [4] [7, 9, 11] [10]

Seventh Semester B.E. Semester End Examination, FEBRUARY_APRIl_2022

DISTRIBUTED COMPUTING

Time: 3 hrs

Max. Marks :100

Instructions : 1. Answer any FIVE Full Questions selecting at least ONE Question from Each Unit.
 2. Assume missing data suitably 3.Draw diagrams & Tables neatly.

MODULE 1

L CO PO M

- 1a. List out the characteristics and explain any one example of Distributed systems. [2] [1] [1] [10]
 1b. Discuss the following challenges of Distributed systems. i. Failure handling ii. Openness . [2] [1] [1] [10]

OR

- 2a. With a neat diagram explain Hardware and Software layers in Distributed System. [2] [1] [1] [10]
 2b. Define Architectural Model; with the help of suitable diagrams explain the following.
 i. Service provided by multiple servers.
 ii. Mobile agents. [1] [1] [1] [10]

MODULE 2

- 3a. Analyze the failure model of Request/Reply protocol in client-server Communication using UDP. [4] [2] [1] [10]
 3b. Define Marshalling. Construct a marshalled form that represents an Organization with instance variable values :{ ‘Amazon’,‘Bangalore’, 33} by using CORBA-CDR & Java Serialization. [3] [2] [3] [10]

OR

- 4a. Define Remote Procedure Call (RPC). With neat diagram explain its implementation. [2] [2] [1] [10]
 4b. Discuss Remote Method Invocation (RMI) invocation semantics and also tabulate failure handling mechanism for each. [2] [2] [1] [10]

MODULE 3

- 5a. With a neat diagram illustrate the File attribute record structure and also the layered module structure of a Non-Distributed File System. [2] [2] [1] [10]
 5b. List and explain various File Transparencies in File system. [2] [2] [1] [10]

OR

- 6a. Analyze the following uses of cryptography with suitable scenarios.
 i. Authentication
 ii. Digital Certificate [4] [3] [1, 2] [10]
 6b. Write the steps of R. S. A. algorithm and illustrate the with an example, given that $p=3$.
 $q=11$. [3] [3] [3] [10]

MODULE 4

7a. With the neat diagram. Explain the concept of synchronization subnet in an NTP implementation [2] [2] [1] [10]

7b. Explain Christian's method for synchronizing clocks. [2] [3] [1] [10]

OR

8a. Explain with a neat diagram Central Server Algorithm. [2] [3] [1] [10]

8b. With neat diagram explain Ring based Algorithm w.r.t. mutual exclusion. [2] [3] [1] [10]

MODULE 5

9a. Define cloud computing. Explain different types of clouds. [2] [3] [1] [10]

9b. With the neat diagram explain cloud computing delivery models and services. [2] [3] [1] [10]

OR

10a. Explain network centric computing and differentiate it with network content computing model. [2] [3] [1] [10]

10b. Discuss ethical issues encountered in cloud computing. [2] [3] [1] [10]

10c. Discuss the challenges faced by cloud computing. [2] [3] [1] [5]

[2] [3] [1] [5]

BLOCK CHAIN MANAGEMENT

Time: 3 hrs

Max. Marks :100

Instructions : 1. Answer any **FIVE** Full Questions selecting at least **ONE** Question from Each Unit.

MODULE 1

L CO PO M

- 1a. Explain how trust is built using block chain. [2] [1] [2] [10]
- 1b. Explain the three types of frictions [2] [1] [2] [10]

OR

- 2a. Explain block chain use cases and its benefits for the following financial services
i) Commercial financing ii) Trade finance iii) cross border transactions [2] [1] [2] [10]
- 2b. Explain the ten steps to create first block chain application. [2] [1] [2] [10]

MODULE 2

- 3a. Define Block chain. Explain with diagram Block chain programming context. [2] [2] [2] [10]
- 3b. Draw the use case diagram and contract diagram for Counter. Write the solidity code for smart contract Counter. [3] [2] [3, 5] [10]

OR

- 4a. Explain with diagram operations of participants in a decentralized airline system. [2] [2] [3] [10]
- 4b. Explain 4 design principles and smart contract design considerations. [2] [2] [2] [10]

MODULE 3

- 5a. Explain digital democracy problem with an example [2] [3] [2] [10]
- 5b. Explain the following functions with appropriate examples i) require()ii) revert()iii) assert() [2] [3] [5] [10]

OR

- 6a. Explain architectural model of block chain network [2] [3] [2] [10]
- 6b. Explain the best practices to be followed in Dapp development. [2] [3] [2, 5] [10]

MODULE 4

- 7a. Explain with examples symmetric key cryptography and asymmetric key cryptography [2] [4] [2] [10]
- 7b. Explain with examples the relevance of public-key cryptography to block chain. [2] [4] [2] [10]

OR

- 8a. Compare traditional application and block chain based applications. [4] [4] [2] [10]
- 8b. Explain the best practices specifically focusing on on-chain and off-chain data. [2] [4] [2, 3] [10]

MODULE 5

- 9a. Explain the role of Web3 in the block chain-based Dapp stack. [2] [5] [5] [10]
- 9b. Explain with a diagram, the relationship between the main channel and micro-payment channel. [2] [5] [2] [10]

OR

- 10a. Explain with a diagram, Infura block chain infrastructure. [2] [5] [5] [10]
- 10b. Explain the steps for deploying MPC-Dapp on Infura. [2] [5] [5] [10]

Seventh Semester B.E. Semester End Examination, FEBRUARY_APRIl_2022**CLOUD COMPUTING**

Time: 3 hrs

Max. Marks :100

Instructions : 1. Answer any FIVE Full Questions selecting at least ONE Question from Each Unit.

2. Draw the diagram wherever necessary.

MODULE 1

L CO PO M

1a. Define Cloud computing. List how cloud computing will help to address business challenges. [2] [1] [1] [6]

1b. Define Dynamic Cloud Infrastructure. Explain any 4 initiatives on which Cloud dynamic infrastructure is based. [2] [1] [1] [6]

1c. With a neat diagram of Cloud Data centre, explain the results that virtualization bring into businesses. List the various reasons for adopting the cloud. [2] [1] [1] [8]

OR

2a. With a neat diagram explain in detail the various cloud deployment models. [2] [1] [1] [10]

2b. Compare Public Cloud, Private Cloud and Hybrid Cloud . Give appropriate examples of cloud vendors. [4] [1] [1] [5]

2c. Discuss any 5 security concerns that must be taken into consideration while deploying Public Clouds. [2] [1] [1] [5]

MODULE 2

3a. GIT wants to host cloud solutions for data storage. Explain how three cloud service models like PaaS, SaaS, and IaaS can be used for the hosted service. [3] [2] [1] [10]

3b. Explain the following

a. Cloud Business Support Service b. Operational Support Service [2] [2] [8] [10]

OR

4a. With a neat diagram explain the cloud eco-system

[2] [2] [8] [8]

4b. Explain the various benefits provided by Computing on Demand

[2] [2] [1] [6]

4c. Write a short note on Cloud Sourcing

[2] [2] [1] [6]

MODULE 3

5a. Define Virtualization. With neat diagram explain server virtualization.

[2] [3] [1] [8]

5b. Explain the following (i) Hardware Virtualization (ii) OS Virtualization

[2]

5c. Explain any 6 current virtualization initiatives.

[2] [3] [1] [6]

OR

[2] [3] [1] [6]

6a. With a neat diagram explain Storage Virtualization. List the various benefits of the same.

[2] [3] [1] [8]

6b. With a neat diagram, explain the basic approach that Network-Attached Storage uses. Also list the various protocols of NAS .

[2] [3] [1] [6]

[2] [3] [1, 8] [6]

6c. Explain the following related to virtualization use cases (i) Availability of machines (ii) Fault tolerance

[2] [3] [1] [6]

MODULE 4

7a. Explain cloud governance with a block diagram

[2] [1] [1] [10]

7b. Explain the following

i) Mean Time Between Failure ii) Mean Time To Recover iii) High Availability iv) Continuous Operations v) Continuous Availability.

[3] [1] [8] [10]

OR

8a. Explain any three different chargeback schemes

[2] [1] [1] [10]

8b. List & explain the different factors that help to develop asset management strategy

[2] [1] [8] [10]

MODULE 5

9a. Explain the google app engine and its features.

[2] [4] [2] [10]

9b. Discuss the EMC fields of expertise?

10a. Discuss cloud services offered by Amazon Cloud Service provider.

[2] [4] [2] [10]

10b. Explain i. IBM features ii. IBM security service.

[2] [4] [2] [10]

[2] [4] [2] [10]

USN : _____

Course Code : 18CS72

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Seventh Semester B.E. Semester End Examination, FEBRUARY_APRIL_2022

NETWORK PROGRAMMING

Time: 3 hrs

Max. Marks :100

Instructions :1.Answer any FIVE Full Questions selecting at least ONE Question from Each Unit.

MODULE 1

L CO PO M

1a. What are the design decisions made before writing network programs? Justify the decisions made in a typical client server model.

[5] [1] [1] [5]

1b. With neat block diagrams, explain how the communication takes places in a LAN and a WAN respectively.

[2] [1] [1] [8]

1c. What is netstat? List the command with atleast 5 options along with the sample output with a brief description on the nature of the output produced.

[3] [1] [1] [7]

OR

2a. Why do you think there was need for defining standards for Unix? What are the major Unix standards? Give an account of POSIX standards.

[2] [1] [1] [6]

2b. What protocol options you have at transport layer? A student wants to build a PictureDekho server, and there are about 500 subscribers who would be watching the movie in the after-noon show, suggest a suitable protocol to use at the transport layer, with justification and show the necessary code to build the server.

[3] [1] [2] [8]

2c. Justify why a three way handshake is needed in TCP connection? With a neat diagram, explain how the connection establishment and termination happens in TCP with appropriate timing diagrams.

[2] [1] [1] [6]

MODULE 2

3a. Discuss value-result arguments passed from process to kernel and kernel to process.

[4] [1] [2] [10]

3b. With a neat diagram, explain the sub-parts of Sockaddr_in structure and justify why it must be typecast to sockaddr while passing Sockaddr_in variable to bind API as an argument.

[4] [1] [3] [10]

OR

4a. Defend the use of htons/htonl and inet_nton functions in network programming. Write a sample program to demonstrate the use of above functions.

[2] [2] [3] [10]

4b. Demonstrate with appropriate code, the application of fork() and exec() APIs in Concurrent Server implementation.

[3] [2] [2] [10]

MODULE 3

5a. With a neat flow chart explain how you would implement Echo Client and Server application using UDP.

[2] [2] [2] [10]

5b. Write both the Echo Client and Server programs using UDP and demonstrate their working.

[3] [2] [3] [10]

OR

6a. Explain with a neat diagram, the working of SCTP protocol and demonstrate with a sample code, how you would build a SCTP Server?

[3] [2] [2] [8]

6b. How would you implement both UDP and TCP server using select API? Demonstrate and explain with the code listing.

[3] [2] [3] [12]

MODULE 4

7a. Discuss how IPV6 servers handle both IPV4 and IPV6 clients.

[2] [3] [3] [10]

7b. Explain processing of received IPV4 or IPV6 datagrams, depending on type of receiving socket.

[2] [3] [2] [10]

OR .

8a. Explain processing of client requests, depending on address type and socket type for IPV4 and IPV6 datagrams.

[2] [3] [3] [10]

8b. Discuss the numerous ways to start a deamon and also explain the syslogd deamon.

[2] [3] [2] [10]

MODULE 5

9a. Explain Unicast example of a UDP datagram.

[2] [3] [2] [10]

9b. Explain the Scope of IPV4 and IPV6 Multicast addresses.

OR

[2] [3] [2] [10]

10a. Explain the dg_cli function that broadcasts to the standard UDP using SO_BROADCAST socket option.

10b. Demonstrate mapping of IPV4 and IPV6 multicast addresses to ethernet addresses.

[2] [] [2] [10]

[3] [3] [3] [10]

USN : _____

Course Code : 18CS751/16CS763

Seventh Semester B.E. Semester End Examination, FEBRUARY_APRIL_2022
SYSTEM SIMULATION AND MODELING

Time: 3 hrs

Max. Marks :100

Instructions :1. Answer any FIVE Full Questions selecting at least ONE Question from Each Unit.

MODULE 1

L CO PO M

1a. List any 5 advantages and disadvantages of simulation.

[1] [1] [1] [10]

1b. Define model of a system. Briefly explain the types of models.

[2] [1] [1] [10]

OR

2a. With the help of flow diagram, explain the simulation of single channel queuing system.

[2] [1] [1] [10]

2b. Define the following terms used in discrete event simulation:

i) System state ii) Entity iii) Attributes iv) List v) Event vi) Event notice vii) Event list viii) Activity ix) Delay x) Clock

[1] [1] [1] [10]

MODULE 2

3a. Explain discrete random variables and continuous random variables with examples.

[2] [3] [1] [10]

3b. Explain the following continuous distributions:

i) Uniform distribution ii) Exponential distribution

[2] [3] [1] [10]

OR

4a. Explain any two discrete distributions.

[2] [3] [1] [10]

4b. Explain the terminologies and concepts used in statistical modeling.

[2] [2] [1] [10]

MODULE 3

5a. What are pseudo random numbers? List the problems that occur while generating pseudo random numbers. Explain linear congruential method for random number generation.

[2] [4] [1] [10]

5b. Explain in brief, the role of maximum density and maximum period in generation of random numbers. With given seed 45, constant multiplier 21, increment 49 and modulus 40, construct a sequence of 5 random numbers.

[3] [4] [1, 3] [10]

OR

6a. Explain the different techniques used for generating random numbers, with examples.

[2] [4] [1] [10]

6b. The sequence of numbers 0.44, 0.81, 0.14, 0.05, 0.93 has been generated, use the Kolmogorov-Smirnov test with $\alpha=0.05$ to determine if the hypothesis that the numbers are uniformly distributed on the interval [0, 1] can be rejected. Compare $F(x)$ and $S_N(x)$. [where $D\alpha=0.565$]

[4] [4] [3] [10]

MODULE 4

7a. Explain the steps involved in development of a useful model of input data.

[2] [3, 5] [1] [10]

7b. Explain with an example, importance of data distribution using histogram and quantile-quantile plots.

[2] [5] [1] [10]

OR

8a. Explain Chi-square goodness of fit test. Apply it to Poisson assumption with $\alpha=3.64$. Data size=100 and observed frequency $O_i=12, 10, 19, 17, 10, 8, 7, 5, 5, 3, 3, 1$.

[3] [3, 5] [4] [10]

8b. Explain in brief, the suggested estimators for distributions often used in simulation.

[2] [5] [1] [10]

MODULE 5

9a. Explain with a neat diagram model building, verification and validation process.

[2] [5] [1] [10]

9b. Describe with a neat diagram iterative process of calibrating a model. Which are the three steps that aid in the validation process?

[2] [5] [1] [10]

10a. Explain input-output validation using historical input data with example.

10b. Explain in brief, common-sense suggestions, those of which can be given for use in the verification process.

[2] [5] [1] [10]

Seventh Semester B.E. Semester End Examination, FEBRUARY_APRIl_2022

AGILE SOFTWARE DEVELOPMENT

Time: 3 hrs.
:100

Max. Marks

Instructions :1. Answer any FIVE Full Questions selecting at least ONE Question from Each Unit.

MODULE 1

L CO PO M

1a. Explain the roles of the below persons:Domain experts, Interaction designers, On-Site Customers, product manager. [2] [1] [1] [10]

1b. Explain the roles of the below persons:Business analysts, Programmers, Designers and architects, programmer-coach. [2] [1] [2] [10]

OR

2a. Explain the 6 prerequisites for adopting XP. [2] [2] [1] [10]

2b. Explain the 5 recommendations for adopting XP. [2] [2] [1] [10]

MODULE 2

3a. Explain why pairing is required in agile software development and explain how to pair in agile. [2] [1] [1] [10]

b. Explain:

I) Challenges in the paring in agile software development

II) How can I convince my team or organization to try pair programming.

III) Do we really have to pair program all the time. [2] [1] [2] [10]

OR

4a. Explain:

- I) Root-cause analysis
- II) how to find the root cause.
- III) how to fix the root cause.

[2] [3] [2] [10]

4b. Explain strategies for generating trust in your XP team. [2] [1] [1] [10]

MODULE 3

5a. Write a brief note on

- I)Work-in progress documentation
- II)Product documentation
- III)Handoff documentation

[2] [1] [1] [10]

5b. Answer the below questions.

I) Who is responsible for maintaining the build script?

II) How do we find time to improve our build?

III) We have different target and development environments. How do we make this build work? [2] [1] [1] [10]

OR

6a. Explain the collective code ownership. [2] [2] [1] [10]

6b. Answer the below questions:

I) Should we really keep all our tools and libraries in version control?

II) How much of our core platform should we include in version control?

III) How should we integrate source code from other projects? We have read-only access to their repositories. [2] [1] [2] [10]

MODULE 4

- 7a. Explain : a) Documenting the Vision.
b) How to Create a Vision Statement.

[2] [1] [1] [10]

- 7b. Explain the below terms.

- a) Generic risk- management plan.
b) Project-specific risk.

[2] [1] [1] [10]

OR

- 8a. Explain the planning game.

[2] [1] [1] [10]

- 8b. Explain : I) Stories along with its characteristics. II)Mention the examples which are nonstories III) Story cards

[2] [1] [1] [10]

MODULE 5

- 9a. Explain Spike Solutions along with example and how to perform the experiment in detail.

[2] [1] [2] [10]

- 9b. Explain how to optimize and when to optimize in Performance Optimization.

[2] [2] [2] [10]

OR

- 10a. Explain the four tools used by exploratory testers to explore the software.

[2] [2] [2] [10]

- 10b. Explain about the Describe, Demonstrate, develop process used to create Customer Tests.

[2] [1] [2] [10]

Seventh Semester B.E. Semester End Examination, FEBRUARY_APRIl_2022

STORAGE AREA NETWORKS

Time: 3 hrs.

Max. Marks :100

Instructions: 1. Answer any FIVE Full Questions selecting at least ONE Question from Each Unit.

MODULE 1**L CO PO M**

- 1a. What is Information Life Cycle? Explain Information Life Cycle Management.? [2] [1] [1] [10]
- 1b. Describe the ILM Implementation in detail? Mention its benefits.? [2] [1] [1] [5]
- 1c. An engineering design department of a large company maintains over 600,000 engineering drawings that its designers access and reuse in their current projects, modifying or updating them as required. The design team wants instant access to the drawings for its current projects, but is currently constrained by an infrastructure that is not able to scale to meet the response time requirements. The team has classified the drawings as “most frequently accessed,” “frequently accessed,” “occasionally accessed,” and “archive.”
- Suggest a strategy for design department that optimizes the storage infrastructure by using ILM.
 - Explain how you will use “tiered storage” based on access frequency.
 - Detail the hardware and software components you will need to implement our strategy.
 - Research products and solutions currently available to meet the solution you are proposing.
- [3] [1] [3] [5]

OR

- 2a. What is Data? Explain the factors that have contributed to the growth of Digital Data. [2] [1] [2] [10]
- 2b. Explain the Core Elements of Data Centre with an Example.? [2] [1] [1] [5]
- 2c. Explain the challenges of Designing Application in detail? [2] [1] [2] [5]

MODULE 2

- 3a. What is RAID? Explain the following techniques which are used in different RAID levels
- 1) Striping
 - 2) Mirroring
 - 3) Parity
- [2] [3] [2] [8]
- 3b. Differentiate between RAID level 5 and RAID 6 [2] [3] [2] [6]
- 3c. Consider an application that generates 5,200IOPS with 60% of them being reads .Calculate the disk load in RAID 5 and RAID 1 also calculate the number of disks required for the application/ [3] [3] [3] [6]

OR

- 4a. Explain RAID 0,RAID 1,Nested RAID 0+1 with neat diagram [2] [3] [1] [10]
- 4b. What is HOT Spare? Explain with neat diagram. [2] [1] [1] [5]
- 4c. Compare different RAID levels based on the following attributes
- a) Number of disks
 - b) Storage efficiency
 - c) cost
 - d) read performance
 - e) write performance
 - f) write penalty
- [2] [3] [2] [5]

MODULE 3

5a. What is SAN ? Explain how Fiber Channel architecture forms the fundamental construct of SAN infrastructure. [2] [2] [1] [6]

5b. Explain the following Components of SAN

- i) Node Ports
- ii) Cabling

[2] [3] [2] [8]

5c. Explain the following basic connectivity options

- i) Point to Point
- ii) Arbitrated loop

[2] [2] [2] [6]

OR

6a. Explain General purpose verses NAS devices? Mention Benefits of NAS

[2] [2] [2] [10]

6b. Explain NAS File Sharing Protocols

- i) NFS
- ii) CIFS

6c. Explain the various components of Networked Attached Storage (NAS)with neat diagram?

[2] [2] [2] [5]

MODULE 4

7a. What is Storage Virtualization? Explain with neat diagram.

[2] [2] [1] [10]

7b. Explain the different Advantages of Storage Virtualization?

[2] [2] [2] [8]

7c. Explain Symmetric Storage Virtualization in the network?

[2] [2] [1] [5]

OR

8a. Differentiate between Block Level and File Level Virtualization with neat diagram?

[2] [2] [2] [8]

8b. What is Virtualization? Explain the differnt types of Storage Virtualization?

[2] [2] [1] [6]

8c. Write short note on

- i) Network Virtualization
- ii) Storage Virtualization

[2] [2] [2] [6]

MODULE 5

9a. Explain how SAN can be applied to OLTP workload?

[3] [2] [3] [10]

9b. Explain the Design and Configuration of OLTP based workload?

[3] [2] [3] [5]

9c. Illustrate the Application of SAN to Web based Transaction Workloads?

[3] [2] [2] [5]

OR

10a. Apply Storage Area Network to Dataware house Workloads?

[3] [2] [3] [6]

10b. Illustrate with diagram DataWare house Workload using a Cascading SAN Configuration.?

[3] [2] [3] [5]

10c. Write short note on

Case Study -The Import Auto Industry SAN?

[3] [2] [3] [8]

Seventh Semester B.E. MAKEUP Examination, MARCH_MAY_2022
STORAGE AREA NETWORKS

Time: 3 hrs.

Max. Marks :100

Instructions :1. Answer any FIVE Full Questions selecting at least ONE Question from Each Unit.

MODULE 1

- | | L | CO | PO | M |
|--|-----|-----|-----|-----|
| 1a. Explain the evolution of Storage Technology from non intelligent internal store to intelligent network storage.? | [2] | [1] | [1] | [8] |
| 1b. Explain the Five core elements of Data Centre with an example? | [2] | [1] | [1] | [6] |
| 1c. What are the key requirements for Data Centre elements? | [2] | [1] | [1] | [6] |

OR

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|--|-----|-----|-----|------|
| 2a. How to manage storage infrastructure? Explain key challenges in managing information? | [2] | [1] | [1] | [10] |
| 2b. A Hospital uses an application that stores patient X-ray in data form of large binary objects in an oracle database. The application is hosted on UNIX server and the hospital staff accesses the X-Ray records through Ethernet gigabit backbone. An EMC Clariion storage array provides storage to the Unix server which has 6TB of usable capacity. Explain the core elements of data Centre. What are the typical challenges the storage management team may face in meeting the service-level demands of the hospital staff? Describe how the value of patient data may change over time. | [3] | [1] | [3] | [5] |
| 2c. A large company is considering a storage infrastructure one that is scable and provides high availability .More importantly the company also needs performance for its mission critical application which storage topology would you recommend and why? | [3] | [1] | [3] | [5] |

MODULE 2

- | | | | | |
|--|-----|-----|-----|------|
| 3a. What is RAID? Explain the Software and Hardware Implementation of RAID | [2] | [3] | [2] | [10] |
| 3b. Write short note on
i) Raid Array Components | [2] | [3] | [2] | [5] |
| 3c. Describe the impact of RAID on Disk Performance? | [2] | [3] | [2] | [5] |

OR

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|---|-----|-----|-----|------|
| 4a. Explain RAID 5 and RAID 6 and nested RAID(0+1) | [2] | [3] | [2] | [10] |
| 4b. Compare different RAID Levels RAID 0,RAID 1, and RAID 2 | [2] | [3] | [2] | [5] |

4c. An application has 1000 heavy users at peak of 2 IOPS each and typical users at peak of 1 IOPS each, with read/write ratio 2:1. It is estimated that the application also experiences an overhead of 20 percent for other workloads.

Calculate the IOPS requirement for RAID 1,RAID 3,RAID 5,RAID 6.

[3] [3] [3] [5]

MODULE 3

- | | | | | |
|--|-----|-----|-----|------|
| 5a. What is Storage Area Network(SAN)?Explain the different components of SAN | [2] | [2] | [1] | [5] |
| 5b. Fiber Channel Architecture supports three basic interconnection options
point to point
Arbitrated loop
Fabric connect Explain each of them in detail? | [2] | [2] | [1] | [10] |

5c. Explain Networked Attached Storage(NAS) file sharing protocol NFS?

[2] [2] [1] [5]

OR

6a. Explain the benefits of Networked Attached Storage(NAS)?

[2] [2] [1] [10]

6b. Describe the different Components of Networked Attached Storage(NAS)?

[2] [2] [1] [5]

6c. Explain Networked attached storage(NAS) file I/O with diagram?

[2] [2] [1] [5]

MODULE 4

7a. Explain the different forms of Storage Virtualization

- i) Memory Virtualization
- ii) Network Virtualization
- iii) Server Virtualization

[2] [2] [2] [8]

7b. Explain SNIA(Storage Networking Industry Association) Storage Virtualization Taxonomy?

[2] [2] [2] [6]

7c. Explain Block Level and File Level Virtualization?

[2] [2] [2] [6]

OR

8a. Differentiate between Symmetric and Asymmetric Virtualization?

[2] [2] [2] [8]

8b. Explain Implementation Considerations of Storage Virtualization?

[2] [2] [2] [6]

8c. How can a block-level virtualization implementation be used as a data migration tool? Explain how data migration will be accomplished and discuss the advantages of using this method for storage. Compare this method to traditional migration methods.

[3] [2] [3] [6]

MODULE 5

9a. Apply SAN(Storage Area Network)to OLTP workloads?

[3] [2] [3] [10]

9b. Illustrate how SAN can be applied to Data ware house Models?

[3] [2] [3] [5]

9c. Write a short note on Import Auto Industry case study?

[3] [2] [3] [5]

OR

10a. Explain the Design and Configuration of OLTP based workload?

[3] [2] [3] [10]

10b. Illustrate the Applications of SAN to Web Transaction Workload?

[3] [2] [3] [5]

10c. Illustrate the Design and Configuration of Data Warehouse Workloads?

[3] [2] [3] [5]

Seventh Semester B.E. MAKEUP Examination, MARCH_MAY_2022

CLOUD COMPUTING

Max. Marks :100

Time: 3 hrs.

Instructions : 1. Draw the diagram wherever necessary.
 2. Answer any FIVE Full Questions selecting at least ONE Question from Each Unit.

MODULE 1

- 1a. List and explain various cloud computing security concerns
 1b. Discuss the barriers in implementing cloud computing
 1c. List and explain four cloud computing characteristics

OR

- 2a. List the workloads which are suitable and not suitable for public clouds
 2b. Explain the various cloud computing deployment models.

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[2]	[1]	[1]	[8]
-----	-----	-----	-----

[2]	[1]	[1]	[8]
-----	-----	-----	-----

[2]	[1]	[1]	[4]
-----	-----	-----	-----

MODULE 2

- 3a. With a neat diagram explain cloud taxonomy. Discuss in detail the gamut of Cloud Solutions
 3b. Define cloud strategy. Identify the key steps in cloud implementation planning phase. Discuss the benefits of cloud strategy in its deployment.

[2]	[2]	[1]	[10]
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[2]	[2]	[1, 8]	[10]
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OR

- 4a. List and explain various "Service Definitions" defined for cloud.
 4b. Explain Cloud Business Support Services (BSS) and Operational Support Services (OSS)
 4c. Explain how SOA architecture is useful for implementing applications in the cloud.

[2]	[2]	[1]	[6]
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[2]	[2]	[8]	[6]
-----	-----	-----	-----

[2]	[2]	[1]	[8]
-----	-----	-----	-----

MODULE 3

- 5a. Explain current virtualization initiatives
 5b. Explain the following related SAN.
 i. Direct attached storage ii. Centralized but still direct attached storage iii. shared storage

[2]	[3]	[1]	[10]
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[2]	[3]	[1]	[10]
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OR

- 6a. With neat block diagram explain storage virtualization.
 6b. Discuss the Network Attached Storage (NAS) basics, protocols, Interconnects and requirements
 6c. Explain the data and storage network convergence

[2]	[3]	[1]	[6]
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[2]	[3]	[1]	[8]
-----	-----	-----	-----

[2]	[3]	[1]	[6]
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MODULE 4

- 7a. List and explain the different factors that help to develop asset management strategy.
 7b. What is Provisioning? Discuss the benefits, long term and short-term goals of provisioning.

[2]	[1]	[8]	[10]
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[2]	[1]	[1]	[10]
-----	-----	-----	------

OR

- 8a. Explain Cloud governance with a neat diagram.
 8b. List and explain any 3 models of chargeback with a diagram.

[2]	[1]	[8]	[10]
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[2]	[1]	[1]	[10]
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MODULE 5

- 9a. Write a short note on Microsoft Cloud Service Provider.
 9b. Discuss briefly Amazon Cloud services.

[2]	[4]	[2]	[10]
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[2]	[4]	[2]	[10]
-----	-----	-----	------

OR

- 10a. Discuss Salesforce.com company and its cloud services.
 10b. Discuss Google and its cloud services.

[2]	[4]	[2]	[10]
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[2]	[4]	[2]	[10]
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