Name: Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
Online End Semester Examination, May 2021

Course: Networking & Mainframe Clustering   **Semester: VI**
Program: B.Tech. CS+MT   **Time 03 hrs.**
Course Code: CSMT3010   **Max. Marks: 100**

Instructions: Students are supposed to assume any missing data and give examples wherever applicable.

SECTION A [30 Marks]
1. Each Question will carry 5 Marks
2. Instruction: Complete the statement / Select the correct answer(s)

S. No.	Question	CO

Q1.	There can be a maximum of _____ Virtual Routes between any two Sub-areas. The Virtual Route numbers may range from _____.
	
	    a. **eight/VR0 to VR7**
	    b. **sixteen/VR0 to VR15**
	    c. **32/VR0 to VR31**
	    d. **256/VR0 to VR254**
		CO1

Q2.	SNA permits _____ sub-areas per network and each sub-area permits up to _____ elements.
	
	    a. **255/255**
	    b. **32/64**
	    c. **128/128**
	    d. **254/256**
		CO2

Q3.	_____command used to view information about explicit rout virtual routes between the Host sub-area and the Destination sub-area.
	
	    a. **DISPLAY ROUTE**
	    b. **DISPLAY PATHTAB**
	    c. **DISPLAY SESSION**
	    d. **All mentioned**
		CO3

Q4.	The SNA should support the _____ function/s to the users. a. **All mentioned** b. **Ensure total security of access to the network and data** c. **Detect errors arising during transmission of data** d. **Handle efficiently the routing and pacing of data through the network**	**CO4**
Q5.	IBM Stopped sales of _____ as of 2006. But it is still used a. **Sysplex Timer** b. **Sysplex** c. **OSA** d. **DASDs**	**CO5**
Q6.	The key technology for implementing a disaster recovery solution is the _____. a. **Geographically Dispersed Parallel Sysplex(GDPS)** b. **XCF Signalling Services** c. **XCF Client/Server Services** d. **Data Sharing Services**	**CO5**

SECTION B [50 Marks]
1. Each question will carry 10 marks
2. Instruction: Write short / brief notes (Scan and Upload)
Note*: Attempt any one question of Q5

Q1.	Describe Central Electronic Complex of a Mainframe system with a suitable diagram.	**CO1**
Q2.	Discuss the statement as below: *"IBM fulfills their commitment for OSI support."*	**CO2**
Q3.	Explain three VTAM shutdown commands with proper syntax,	**CO3**
Q4.	What are the basic system requirements for TCP/IP implementation for z/VM?	**CO4**

Q5.	Explain SNA Network Management Services (SNA/MS) Support.	
	OR	**CO4**
	Illustrate the mainframe hardware and discuss its I/O connectivity with other networks?	

SECTION-C [20 Marks]
1. Each Question carries 20 Marks.
2. Instruction: Write long answer. Give suitable examples/references where applicable (Scan and Upload)

Note*: Attempt any one question

	"The most likely way for the world to be destroyed, most experts agree, is by accident. That's where we come in; we're computer professionals. We cause accidents." *–Nathaniel Borenstein (1957–)*	
	There are many different ways to integrate with mainframes. You must analyze your requirements and design judiciously—balancing cost, environment, and performance considerations. Other things to consider are interaction type, synchronization requirements, and transaction type. Ensure that you adequately assess risks and have a risk-mitigation plan in place.	
	Mainframe environments (operating systems, transaction processors, databases, and so on) have been evolving for over four decades and are still going strong. On the other hand, midrange systems usually go through significant paradigm shifts every three to five years. Why do you think that is the case?	**CO5**
	- If you were architecting a mission-critical system (say, NASA's moon-base system), would you go for a full-distributed system, a mainframe-based system, or a hybrid approach? Why? If you selected a hybrid approach, what functionality would you keep on the distributed side, and what would you put on the mainframes? What interfacing challenges do you foresee in architecting a three-component messaging system between earth, the International Space Station, and the moon base?	
	Critical Examine the above phrase and based on your analysis and observations answer any of the questions as below:	

Q1.	When mainframe is in itself a zero downtime system then why Sysplex and parallel Sysplex are designed for mainframe system? Explain with proper diagram. What is Sysplex Failure Management (SFM)?	
	OR	
	Discuss the various factors that can affect the continuous availability. How Sysplex/parallel Sysplex can provide Continuous Availability to the business. Discuss in detail with various Sysplex Services.	