

## INTERNAL ASSIGNMENT

Course Code:23OMC104

Last Date of Submission:15-01-2024

Course Title: Advanced Operating System

Maximum Marks: 30

Assignment No.:2

Note: 1. The assignment will have two parts, A and B. Part A is of 10 MCQ type Questions of 1 mark each. 2. Part B is of 20 Marks having 8 Descriptive Questions. Attempt any 5 out of it.

### Part A

Q.No	Question
1	What does true distributed processing in a distributed system involve?
	a) Individual computers working independently on separate tasks. b) Separate computers working together to achieve a common objective. c) A single computer handling all processing tasks. d) The centralization of all processing tasks.
2	How do distributed systems enhance reliability
	a) By using centralized servers for better control b) By reducing the number of sites to minimize the impact of failures. c) By allowing each site to be independent and self-sufficient. d) By continuing operations even if one site fails through redundancy
3	How does resource sharing work in a distributed system
	a) Resource sharing involves using centralized servers for better control, which enhances security. b) Resource sharing allows users to access resources at other sites, enhancing flexibility and functionality. c) Resource sharing relies on individual resource allocation, improving reliability. d) Resource sharing is not relevant to distributed systems.
4	Scalability refers to a parallel system's (hardware and/or software) ability
	a) For a proportionate increase in parallel speedup with the removal of some processors b) For a proportionate increase in parallel speedup with the addition of more processors c) For a proportionate decrease in parallel speedup with the addition of more processors d) None of these
5	Non-Uniform Memory Access (NUMA) is
	a) Here all processors have equal access and access times to memory b) Here if one processor updates a location in shared memory, all the other processors know about the update. c) Here one SMP can directly access memory of another SMP and not all processors have equal access time to all memories d) None of these
6	Which cloud deployment model is known for providing a high level of control and security but may be less cost-effective
	a. Public Cloud b. Private Cloud c. Community Cloud d. Hybrid Cloud
7	What is the primary function of the Swift component in OpenStack?

	<ul style="list-style-type: none"> <li>a. Compute engine</li> <li>b. Block storage</li> <li>c. Object storage</li> <li>d. Networking capability</li> </ul>
8	Which cloud service model involves providing a platform allowing customers to develop, run, and manage applications without dealing with the complexity of building and maintaining the infrastructure?
	<ul style="list-style-type: none"> <li>a. Infrastructure as a Service (IaaS)</li> <li>b. Platform as a Service (PaaS)</li> <li>c. Software as a Service (SaaS)</li> <li>d. Network as a Service (NaaS)</li> </ul>
9	What is the primary function of a Type 2 Hypervisor?
	<ul style="list-style-type: none"> <li>a. Running directly on hardware</li> <li>b. Operating at the application level</li> <li>c. Managing hardware resources</li> <li>d. Running multiple guests in their own hardware partitions</li> </ul>
10	What is the role of a cloud operating system (Cloud OS) in a cloud computing environment?
	<ul style="list-style-type: none"> <li>a. Managing cloud providers</li> <li>b. Providing identity services</li> <li>c. Implementing Infrastructure as a Service (IaaS)</li> <li>d. Supporting interoperability</li> </ul>

#### Part B

Q.No	Question
1	Explain the advantages of distributed systems.
2	What is the difference between computation migration and process migration? Explain.
3	List the differences between symmetric multiprocessing (SMP) and asymmetric multiprocessing in parallel systems.
4	Explain the significance of hypervisors in virtualization.
5	Describe four benefits of virtualization.
6	List and briefly define the key components of a cloud operating system.
7	Explain the relationship between a cloud OS and IaaS.
8	Explain, with a comparative analysis, the differences between the Linux and Windows 7 operating systems.