MCS-227

Master of Computer Applications (ONLINE)

Cloud Computing and IoT

Duration : 3 hours Maximum marks:100

This Question paper comprises of 3 sections, section A, B and C.

Section A: Comprises of Short Answer Questions, attempt any 5 out of 7 Questions.

Section B: Comprises of Medium Answer Questions, attempt any 5 out of 7 Questions.

Section C: Comprises of Long Answer Questions, attempt any 2 out of 3 Questions.

Section-A

(Short Answer Questions) (4×5=20)

1. How cloud computing differs from cluster computing? Give benefits and applications of cloud computing.
2. What do you understand by the term "Scaling"? List the various advantages of scaling in cloud computing.
3. Discuss IaaS (on demand virtualization Infrastructure) as a cloud service delivery model, with example.
4. What is Gateway-prefix? Why it is needed?
5. What are sensors? Give static and dynamic characteristics of sensors.
6. What do you understand by the term "Vertualization" in context of cloud computing? Give advantages of virtualization.
7. Discuss 6 LoWpan network technology, used to establish connection between devices.

Section-B

(Medium Answer Questions) (10×5=50)

8. List and explain the four categories of cloud deployment models, with suitable example for each. Also, discuss when it is suitable to use which cloud deployment model.

9. What is cloud service delivery model? Explain the following cloud service delivery models with suitable example for each:

i) PaaS

ii) SaaS

10. What do you understand by Inter Cloud Networking in cloud computing? Explain Public and Private Inter Cloud Networking with suitable example for each.

11. Explain proactive scaling and Reactive scaling techniques. Also, differentiate both with reference to the following parameters:

i) Scalability

ii) Working

iii) Cost

iv) Implementation

12. What is Hypervisor? Compare the functionality of Type-1 and Type-2 Hypervisor with the help of suitable block diagram for each, also give advantages and disadvantages of each type of Hypervisor.

13. Explain Fog Computing with the help of a suitable diagram, for its logical architecture. Give advantages and disadvantages of Fog Computing. Also, compare it with cloud computing.

14. Explain the term IoT (Internet of Things). List and explain the various components used to implement IoT. Also, give characteristics of IoT. How Machine to Machine (M2M) technology differs from IoT?

Section-C

(Long Answer Questions) (15×2=30)

15. What do you understand by the term Resource sharing, in Context of cloud computing? Explain the term "Tenancy" and compare "Multi-Tenancy model" with "Single-Tenancy Model" of resource sharing. Also, list the ways through which "Multi-tenancy" can be implemented.

16. Explain the term Resource Provisioning in context of cloud computing. Also, discuss the various approaches used for Resource provisioning. What is the problem of over-provisioning and under provisioning? Discuss.

17. Write short notes on following:

i) Constrained Application Protocol (CoAP)

ii) Resource Pooling Architecture

iii) Identity and Access Management

iv) Z-wave

v) Multi Homing