



Cairo University
Faculty of Computers and Information



Final Term Exam

Program: Software Engineering	
Course Name: Advanced Topics in Software Engineering	Date: 18/1/2022
Course Code: CS466	Duration: 2 Hours
Instructor(s): Prof. Fatma Omara	Total Marks: 60

Answer The Following Questions

Question 1: Define The Following:

[10 marks]

- ✓[1] Down Time
- ✓[2] Virtual Organization
- ✓[3] Consolidation
- ✓[4] Hard Real Time
- [5] VM hand-off

Question 2:

[20 marks]

What are the similarities and differences between the following:

- ✓[1] Cloudlet Computing and Mobile Edge Computing
- ✓[2] Virtualization and Emulation
- ✓[3] Full Virtualization and OS Level Virtualization
- ✓[4] Fog Computing and Cloudlet Computing
- ✓[5] Network Faults and Dirty-Pages

Question 3:

[30 marks]

Select the correct answer from the following

- ✓1- A technology to run multiple same or different isolated OSs on a single physical system by abstracting and partitioning its physical
 - a) Virtual Organization
 - ✓b) Virtualization
 - c) Hypervisor
 - d) None of the mentioned

- 2- Which of the following VMMs manage resources for VMs and runs on a Host OS ?
- a) Para Virtualization
 - b) Full Virtualization
 - c) Instruction –Level Virtualization
 - d) None of the mentioned
- 3- It is a service provided to the users to complete their tasks by accessing and running functions on the user premises
- a) SaaS
 - b) PaaS
 - c) Attached Service
 - d) All of the mentioned
- 4- The main mode of SaaS is
- a) Fin grain-tenancy
 - b) multi-tenancy
 - c) multiple-instance
 - d) All of the mentioned
- 5- Fog computing can be perceived in
- a) Big data and Cloud systems
 - b) Big data and IoT
 - c) Cloud systems and IoT
 - d) Big data, Cloud systems and IoT
- 6- How does Fog computing differ from cloud computing?
- a) It eliminates the need for a cloud.
 - b) It decentralizes the Cloud
 - c) It relies on a storage Cloud
 - d) There is no difference
- 7- What are design issues in distributed system structure?
- a) Scalability
 - b) Fault-tolerance
 - c) Clustering
 - d) All of the mentioned

8- Which of the following is considered a mobility-enhanced small-scale cloud data center located at the edge of the internet.

- a) Edge Computing
- b) Fog Computing
- c) Cloudlets
- d) all of the mentioned

9- The presence of more than one cloud deployment of the same type sourced from different vendors.

- a) Public Cloud
- b) Private Cloud
- c) Hybrid Cloud
- d) Multi Cloud

10- The interaction and communication between billions of devices that produce and exchange data related to real-world objects

- a) Big Data
- b) Internet of Things
- c) Edge Computing
- d) Fog Computing

11- Combination of heterogeneous, hierarchical, and distributed computing resources.

- a) Jungle Computing
- b) Distributed System
- c) Edge Computing
- d) P2P Computing

12- Which of the following type of virtualization is also characteristic of cloud computing?

- a) Storage
- b) Application
- c) CPU
- d) All of the mentioned

13- What is common problem found in distributed system?

- a) Process Synchronization
- b) Communication synchronization
- c) Deadlock problem
- d) Power failure

14- The approach is used for Cloudlets provisioning

- a) VM Overlay
- b) VM Migration
- c) VM Synthesis
- d) Not the mentioned

15- The system contains software and hardware components located at a network

- a) Computer Network
- b) Cluster System
- c) Networked Computing
- d) Distributed System

*With My Best Wishes
Prof. Fatma Omara*