Roll No: ----------

UPES

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December 2017

Program : B. Tech. CSE (CCVT) | **Semester – VII**
Subject (Course): Cloud Performance Tuning | **Max. Marks : 100**
Course Code : CCVT 4001 | **Duration : 3 Hrs**
No. of page/s: 2

Section A

[4x5=20]

1. Explain the various performance monitoring tools and commands in Linux.
2. Discuss the two major reasons that people think, Java application is slow?
3. Explain the benefits of hibernation in computing.
4. Given that machine A runs a program in 20 seconds Machine B runs the same program in 25 seconds. Calculate and explain -
    a) Performance of A
    b) Performance of B
    c) Machine A _____ times faster than Machine B

Section B

[4x10=40]

5. Discuss the application tuning strategy to make it run/ respond faster. Support your answer with any four (4) suitable examples.

    Hint: You can choose java application programming constructs.
6. What is profiler and its usage? Discuss the various examples of profilers.
7. Explain Advanced Power Management Interface. Discuss the use of Battery MAX (idle detection) system.
8. What is memory mirroring? Discuss the performance of memory mirroring.

Section C

[2x20=40]

9. Discuss the database tuning strategies in details.
10. What are the various methods of compute performance measurement?

Or

11. What does TPC benchmark stands for? Explain any five of the following standards.
    a) TPC-C
    b) TPC-DS

c) TPC-E
d) TPC-H
e) TPC-VMS
f) TPCx-HS
g) TPC-Energy

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Section A

[4x5=20]

1. Discuss the two major reasons that people think, Java application is slow?
2. Write about the different types of servers.
3. Explain the benefits of hibernation in computing.
4. Given are two computers with different instruction sets: B's clock rate is 3 times that of A's; a program on B requires twice as many instructions as one on A to do the same task. However, B's CPI rate is 2, whereas A's CPI rate is 3. Which machine does a job faster and by how much?

Section C

[4x10=40]

5. Explain Energy star and VESA Display and other standards for power management.
6. Explain the Processor level techniques for power management in cloud computing environment.
7. A program runs on computer A in 10 seconds. A has a 4 GHz clock rate. Design a computer B that runs the same program in 6 seconds. Constraint is that a faster design is possible but will require 1.2 times as many clock cycles as A. What is B's clock rate?
8. Write the benefits of performance monitoring and analysis. In terms of the hardware performance, explain the following with suitable example.
    a. Response Time
    b. Latency
    c. Throughput

Section C

[2x20=40]

9. Discuss the database tuning strategies in details.
10. Discuss the various methods of compute performance measurement.

    Or

11. Explain Benchmark. How benchmarks help make the choice for performance oriented systems design.