School of Engineering and Applied Science (SEAS), Ahmedabad University

Name: _____ Roll no.: _____

B. Tech. (ICT): Semester VII

Course: 'Cloud Computing'

End-Semester Exam (Marks: 20, Weight: 20%)

September 26, 2019, Duration: One hour

Instructions

- **Write all your answers on these papers only and you should return question paper at the end of your exam.**
- **Some questions have multiple correct answers and you must provide all correct answers.**
- **Marks will be given for fully correct answers and not for partially correct answers.**
- **All acronyms carry their usual meaning.**
- **Your answers should be precise and not vague**

Answers	Q – I [10]	Q - II [10]	Total Marks [20]
Correct			
Marks scored			

[Q.1] You can write the option to mention your answer in the space given. [10]
Few of these questions may have multiple correct answers.

1. In case of RPC, the stub takes care of

(a) locating server (b) formatting the data appropriately
(c) forwarding a response as return parameter of the procedure invoked by the client
(d) all of the above

2. Which of the following statements are true?
   (a) Middleware offers programming abstraction that hides some of the complexities of building a distributed application.
   (b) Both static and dynamic type of binding can be done in RPC
   (c) In asynchronous RPC, the stub has two entry points to invoke the procedure.
   (d) None of the above

3. What will be the default output of rpcgen? (Select all the answers applicable)

   A. A header file of definitions common to the server and the client

   B. A set of XDR routines that translate each data type defined in the header file

   C. A stub program for the server

   D. A stub program for the client

   E. All of Above

4. Which command/tool should be used to generate stubs while using remote method invocation? RMI requires each server object to be registered a registry. Which command should be executed to start registry?

5. Which technique is used which Object persistence is realized.

6. By default, RMI registry runs on which port?

7. HTTP is
A. Connection Less B. Connection Based C. Stateful
D. Stateless E. Secure

8. Basic XML can be described as:

A. A hierarchical structure of tagged elements, attributes and text.

B. All the HTML tags plus a set of new XML only tags.

C. Object-oriented structure of rows and columns.

D. Processing instructions (PIs) for text data.

E. Textual data with tags for visual presentation.

9. An e-business company plans to redesign its XML data model to allow support for more data types. It also proposes to change the XML data model by replacing some attributes with elements, allowing multiple values. Which of the following statements regarding the changing of an attribute to an element are true?
A. The XML parser that parses the XML documents has to be rewritten.
B. The XSL processor that parses the product information has to be rewritten.
C. The XSL template that processes the product information has to be modified.
D. The application logic that generates the XML conforming to the XML data model has to be modified.

10. What will happen when following XML document will be opened in a web browser?

```
<?xml version="1.0"?>
<!-- A Valid XML Document -->
<message>
Girnar Pravas</message>
<message>
You may join.
</message>
```

11. Distributed applications require support of essential system level programming functions or facilities to develop them and such are handled by Application Server. List down any four.

12. Resource management in Grid Computing is centralized.

A. True

B. False

13. Which is the correct answer for Service-Oriented Architecture?

(a) It is loosely coupled, (b) It is protocol independent,

(c) It is standards-based, (d) all of above

14. Web Services standards and specifications stack provides a list of various specifications to be used by the developers while developing Web Services. List down any four.

15. Services to support Database Management System in any cloud based system should be part of

(a) Software as a Service (SaaS) (b) Platform as a Service (PaaS)

(c) Infrastructure as a Service (IaaS) (d) Enterprise as a Service (EaaS)

16. Which type of virtualization needs to modify the guest operating systems?

17. Which of the following justify the statement – "Linux based Clusters are good".

A. Low initial implementation cost
B. Free Software: Linux, GNU, MPI, PVM
C. Scalability: can grow and shrink
D. Familiar technology, easy for user to adopt the approach, use and maintain system
E. All of above

18. Which of the following are good programming paradigm to develop software code for cluster computing?

A. Shared memory model: Thread, OpenMP and Intel Threads
B. Message passing model: MPI and PVM
C. Data parallel model: HPF (High Performance Fortran)
D. All of above

19. What does para-virtualization provide for substantial OS modifications in user applications?

20. In Grid Computing, a set of individuals and/or institutions defined by sharing rules form are called _____

21. Which service in Grid Computing provides information about the available resources within the grid and their current status.

22. Platform as a Service (PaaS) allows developers not to worry about software installation and cloud infrastructure management and allows for rapid application development. Which computing platforms are typically provided by PaaS?

Q.2 Write precise and brief answers for the following [10]

1. List three types of instructions which any hardware architecture will have.

2. What is the specific role of 'Domain 0' in Xen Architecture?

3. What is the "equivalence" property of a virtual machine monitor?

4. "If it's in the cloud, get it on paper" is a famous saying for cloud computing services. What is the purpose of a service level agreement in cloud computing? What are its important parameters/ingredients?

5. Define the term 'Web Services' precisely. Explain the difference between Stateless Web Service Invocation and Stateful Web Service Invocation.

Answer:

6. What are the basic building blocks for REST?

7. Which two techniques are available for Memory Virtualization?

8. Which three Tiers of schedulers are used by Xen?

9. Why x86 architecture is not fully virtualizable? Which instructions of X86 can be virualized? Which two techniques can be used to virtualize?

10. Which core functionalities Software As A Service (SAAS) must offer?

11. Which are the main disadvantages of Platform As A Service (PAAS)? Write each briefly.

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