

QUIZ:

1. When submitting jobs to a cluster, the batch scheduler will interpret:
 - a. Any information regarding the maximum waiting time in the queue
 - b. The script lines starting with #PBS
 - c. The script line that defines the wall-clock time like this: `#!/PBS -lwalltime = 1:00`
 - d. The `qsub` commands inside the job script

Correct Answer is b.

2. The security in early "Distributed Computing" systems, like RPC and CORBA, was based on:
 - a. Trust between Virtual Organisation members
 - b. Digital certificate authentication
 - c. Username and password authentication
 - d. Federation of trusted geographically dispersed resources

Correct Answer is c.

3. Grid Computing is enabled through:
 - a. A Cloud middleware on top of clusters
 - b. Remote ssh logon to a particular cluster
 - c. Dynamic, loose federation of resources
 - d. Low level mechanisms of Trust and Security

Correct Answer is c.

4. Distributed memory applications
 - a. Run best with OpenMP
 - b. May include fork/join methods in parallel sections of the code
 - c. Perform better when each thread is let to one core
 - d. Can be limited by the message passing communication

Correct Answer is d.

5. The batch scheduler:
 - a. Distributes user jobs in a first come first served basis
 - b. Puts the independent tasks in different Worker Nodes
 - c. Puts the independent tasks in different queues
 - d. Ensures that the machines aren't overloaded

Correct Answer is d.

6. Which of the following is *not* a Grid Computing attribute:
 - a. Large Scale Compute and Storage capacity
 - b. Distributed Computing in a transparent way
 - c. Security and Authorization
 - d. Deployment of non-embarrassingly parallel applications

Correct Answer is d.

7. When you design a parallel application:

- a. Better place tasks that communicate frequently on the same processor
- b. Use Functional partitioning to distribute the data among several processors
- c. Use Data partitioning to run a different task on the same data
- d. Wall clock time must be slightly different to the CPU time

Correct Answer is a.

8. The jdl description of a Grid job includes:

- a. Any requirements on the Compute Element (CE) and the Worker Nodes (WN)
- b. The Workload Management System (WMS) specifications
- c. The desired Worker Node hostname to receive the job
- d. The job scheduling algorithm for the dispatcher

Correct Answer is a.

9. The cluster Compute Element (CE) role is:

- a. To accept jobs from the Workload Management System (WMS) and dispatch them to the Worker Nodes (WN)
- b. Your access point to the Grid
- c. To execute the job and store the output to a Storage Element (SE)
- d. To renew a short lived temporary certificate for a long running job

Correct Answer is a.

10. Scaling out an application:

- a. Is a method to get your results always faster
- b. Would mean to get the largest possible computer for your workload
- c. Is horizontal scaling by adding more nodes for your workload
- d. Requires to avoid splitting the application workflow

Correct Answer is c.