



**Exam Code:** UM0-401

**Exam Name:** OMG OCRES - Intermediate Exam

**Vendor:** OMG

**Version:** DEMO

## Part: A

1: An example of a module exhibiting temporal cohesion is a combination of \_\_\_\_\_.

- A.the control and management of two onboard hardware clocks
- B.a 40 millisecond periodic navigation function and a 40 millisecond periodic display update function
- C.several mathematical functions such as the sine, cosine, and arctangent functions
- D.the vehicle speed and acceleration management functions

**Correct Answers: B**

2: What two actions must occur in systems that use overlaying with a disk drive backing store? (Choose two.)

- A.Only data is stored on the disk and code is stored in RAM.
- B.A task executing in RAM can also execute code that is stored on the disk.
- C.The operating system must prevent each task in RAM from accessing RAM outside the area reserved for it.
- D.The code for the currently executing tasks is stored in RAM and that for the currently inactive tasks is stored on the disk, as managed by the operating system.

**Correct Answers: C D**

3: Which two statements about static memory allocation are true? (Choose two.)

- A.Garbage collection is not required.
- B.Memory fragmentation does not occur.
- C.Memory allocation units are always the same fixed size.
- D.Tasks must inform the run-time (e.g., operating system) the total amount of memory they will need before they begin requesting memory.

**Correct Answers: A B**

4: POSIX \_\_\_\_\_.

- A.is the same as UNIX
- B.is not designed for real-time systems
- C.does not support asynchronous I/O
- D.is an operating system interface standard

**Correct Answers: D**

5: A scheduler runs tasks to completion instead of pre-empting tasks by time slicing or according to priority. What two actions will occur? (Choose two.)

- A.Maximize the number of completed tasks per unit of time
- B.Minimize the task scheduling and context switching overheads
- C.Honor the commitment made to complete the task once it has begun executing
- D.Share the processor time fairly among ready tasks

**Correct Answers: B C**

6: Which two statements are true of a monitor for synchronization? (Choose two.)

- A.No concurrent access by tasks is allowed to any resource(s) within a monitor.
- B.One monitor may encapsulate any number of resources and their synchronization functions.
- C.If a requesting task enters a monitor but finds the resource isn't available, the task exits the monitor and is placed at the end of the monitor's external queue.
- D.If two tasks are waiting in a monitor's queues for separate resources, when the task that has been accessing a resource finishes doing so, all the queues with waiting tasks are served round-robin.

**Correct Answers: A B**

7: Which two are POSIX real-time extensions? (Choose two.)

- A.suspend / resume API's
- B.direct cyclic executive support
- C.task synchronization
- D.priority-based preemptive task scheduling

**Correct Answers: C D**

8: Which two of these techniques would successfully avoid mutual exclusion deadlocks? (Choose two.)

- A.Set up a circular dependency of tasks and resources
- B.Allow a task's use of a resource to be pre-empted
- C.Require tasks to acquire and use only one resource at a time
- D.Require tasks to acquire resources in order of the tasks' priorities

**Correct Answers: B C**

9: The priority of a runnable task blocked on a resource request is temporarily changed to be the same as the priority of another task. Which two phrases could describe the new priority? (Choose two.)

- A.The priority of the highest priority task
- B.The priority of the lowest priority task which uses the resource
- C.The priority of the higher priority task being blocked by the lower priority one
- D.The ceiling priority of the resource on which the lower priority task is blocked

**Correct Answers: C D**

10: What two results occur by changing priorities dynamically? (Choose two.)

- A.Reduces overhead
- B.Increases overhead
- C.May starve lower priority tasks
- D.Avoids the need for priority queues

**Correct Answers: B C**