

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