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Question: 1

What is one difference between service level software and application level software?

- A. Service level software always provides real-time guarantees on execution time, while application level Software does not.
- B. Application level software always forms the core "building bricks" of software systems while service Level software is always portable across different hardware.
- C. Application level software provides the functionality and behavior required of the system while Service level software provides application-independent functionality.
- D. Service level software always provides the same set of operations regardless of environment, while Application level software provide a consistent programming interface.

Answer: C

Question: 2

What is the difference between static and dynamic variables?

- A. Static variables are used to save memory space in lieu of dynamic variables.
- B. Static variables have global visibility while dynamic variables are restricted to individual components.
- C. Static variables have a set value for the lifetime of the program, while dynamic variables can change value as determined by the program.
- D. Static variables exist for as long as the program runs, while dynamic variables are created and destroyed by the program and scoping rules.

Answer: D

Question: 3

A Rate Monotonic Schedule sets task priorities according to what?

- A. task laxity
- B. task deadline
- C. system mode
- D. length of a task's period

Answer: D

Question: 4

Programs devised using functional structuring are based on what?

- A. abstract machines organized in layers
- B. data processed by individual statements
- C. functions operating on shared structures
- D. independent functions organized in parallel

Answer: A

Question: 5

Which is an example of a performance modeling tool?

- A. spreadsheet
- B. discrete event simulator
- C. transaction rate analyzer
- D. software configuration manager

Answer: B

Question: 6

Which statement is true about the feasibility of a Rate Monotonic Schedule?

- A. It CANNOT be determined precisely.
- B. It can be determined only for the highest priority task.
- C. It can be determined for any set of task deadlines with bounded execution times.
- D. It can be determined for any number of periodic tasks with bounded execution times.

Answer: D

Question: 7

What does performance engineering start with?

- A. creating a predictable system architecture
- B. choosing an appropriately predictable scheduling policy
- C. defining the performance requirements for the target system

D. defining a set of performance tests to determine that requirements will be met

Answer: C

Question: 8

How does a pure tree decomposition differ from a general hierarchical decomposition?

- A. Different modules share standard subroutines.
- B. Leaf-functions are shared between many different modules.
- C. 'Building-brick' functions are NOT shared between modules.
- D. System branch prediction can be used to increase performance.

Answer: C

Question: 9

Creating rate groups can produce which effect?

- A. reducing processor load variations
- B. ensuring that time constraints are met
- C. decreasing the overhead of task dispatch
- D. simplifying system maintainability when requirements change

Answer: C

Question: 10

Earliest deadline scheduling is a form of what?

- A. preemptive static scheduling
- B. deadline monotonic scheduling
- C. non-preemptive static scheduling
- D. priority-based preemptive dynamic scheduling

Answer: D

Question: 11

For which schedule is the task priority computed using both the tasks execution time and its deadline?

- A. Least Laxity First
- B. Shortest Job First
- C. Deadline Monotonic
- D. Shortest Remaining Time

Answer: A

Question: 12

A 'strongly typed' programming language is subject to which two rules? (Choose two.)

- A. Every data object must belong to one unique type.
- B. All data objects are strongly associated to a local scope.
- C. Data object names must be in strong Hungarian notation.
- D. Data objects must be of the same type during assignments unless actively overridden.

Answer: A, D