Software Engineering

Assignment- 5
TYPE OF QUESTION: MCQ/MSQ

Number of questions: 10   **Total mark: 10 X 1 = 10**

For each of the following questions one or more of the given options are correct. Choose the correct options.

QUESTION 1:

The extent of data exchanges between two modules is indicated by which one of the following terms?

      a. Coupling

      b. Cohesion

      c. Structure

      d. Union

      e. Integration

Correct Answer: a. Coupling

Detailed Solution:

The data exchange between two modules is known as coupling, whereas within the same module is known as cohesion.

QUESTION 2:

Which one of the following types of cohesion can be considered as the best form of cohesion?
      a. Logical
      b. Coincidental
      c. Temporal
      d. Functional
      e.   Procedural

Correct Answer: d. Functional

Detailed Solution:
  Cohesion is a measure of:
 –functional strength of a module.
 –A cohesive module performs a single task or function.

QUESTION 3:

The modules in a good software design should have which one of the following characteristics?
- a. High cohesion, low coupling
- b. Low cohesion, high coupling
- c. Low cohesion, low coupling
- d. High cohesion, high coupling
- e. Moderate cohesion, high coupling

Correct Answer: a. High cohesion, low coupling

Detailed Solution:

In High cohesion and low coupling scenario, a functionally independent module needs very little help from other modules and therefore has minimal interaction with other modules. Therefore, it is reduces error propagation and good for software design.

QUESTION 4:

Which of the following is the best (most desirable) type of module coupling?
- a. Control coupling
- b. Stamp coupling
- c. Data coupling
- d. Content coupling
- e. Common coupling

Correct Answer: c. Data coupling

Detailed Solution:

Data coupling has the low degree of coupling. Hence, it is most desirable for module coupling. For more information, please refer slide 47 of week 5 lecture material.

QUESTION 5:

Which one of the following is the worst type of module coupling?
  a. Control coupling
  b. Stamp coupling
  c. External coupling
  d. Common coupling
  e. Content coupling

Correct Answer: e. Content coupling

Detailed Solution:

Content coupling has the highest degree of coupling. Hence, it is most undesirable for module coupling. For more information, please refer slide 47 of week 5 lecture material.

QUESTION 6:

Which one of the following is the worst type of module cohesion?
  a. Logical cohesion
  b. Temporal cohesion
  c. Functional cohesion
  d. Coincidental cohesion
  e. Communicational cohesion

Correct Answer: d. Coincidental cohesion

Detailed Solution:
 Coincidental cohesion has the lowest degree of cohesion. Hence, it is not desirable for software design. For details please refer slide 32 of week 5 lecture material.

QUESTION 7:

In which one of the following types of coupling, complete data structures are passed from one module to another?
  a. Control Coupling
  b. Stamp Coupling
  c. External Coupling
  d. Content Coupling
  e. Common coupling

Correct Answer: b. Stamp Coupling

Detailed Solution:
Two modules are stamp coupled, if they communicate via a composite data item or an array or structure in C.

QUESTION 8:

If all tasks must be executed in the same time-span, what type of cohesion is being exhibited?
  a. Functional Cohesion
  b. Temporal Cohesion
  c. Functional Cohesion
  d. Sequential Cohesion
  e. Communicational cohesion

Correct Answer: b. Temporal Cohesion

Detailed Solution:

Temporal cohesion is exhibited for the given scenario. For example, the set of function is responsible for initialization, start-up, shut-down of any process etc.

QUESTION 9:

Which one of the following is the correct ordering of the coupling of modules from strongest (least desirable) to weakest (most desirable)?
- a. content, common, control, stamp, data
- b. common, content, control, stamp, data
- c. content, data, common ,stamp, common
- d. data, control, common, stamp, content
- e. common, data, control, stamp, content
- f. content, data, control, common, stamp

Correct Answer: a.   content, common, control, stamp, data

Detailed Solution:

content> common> control> stamp> data based on the degree of cohesion. For more information, please refer to slide 47 of week 5 lecture material.

QUESTION 10:

During the detailed design of a module, which one of the following is designed?
- a. Module hierarchy
- b. Data structures and algorithms
- c. Control structure
- d. Data flow structure
- e. Module interfaces

Correct Answer: b. Data structures and algorithms

Detailed Solution:

Data structure and algorithms are designed during the detailed design module.
For more information, please refer slide 11 of week 5 lecture material.

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