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## CS504 GRAND QUIZ

Modules with high cohesion and low coupling can be treated and analysed as

- White boxes
- black boxes**
- grey boxes
- none of these

While establishing the services for an object, the following fundamental questions should be asked:

- Why does the system need this object anyway?
- What useful questions can it answer?
- What useful action can it perform?
- All of the given options.

-----is a role that each actor plays in the system under consideration.

- An act
- **A participant**
- A function
- None of the given

Any Engineering approach must be founded on organizational commitment to -----.

- Cost
- Scheduling
- Quality**
- Performance

Return values in synchronous messages are:

- Compulsory
- **May not used when response is obvious**
- Not used at all
- Represented by solid lines

According to Caper Jones analysis of project activities, coding only has ----- affect part in system development.

- 13-14%**
- 36-40%
- 50-60%
- 70-80%

Normally a system is more easy to modify if its modules have

- High coupling and high cohesion
- High coupling and low cohesion
- Low coupling and high cohesion**
- Low coupling and Low cohesion

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In multi-threaded or multiprocessing applications where different execution threads may pass information to one another by sending -----to each other.

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- Interrupt calls
- Synchronous messages
- Asynchronous messages**
- System Calls

Which of the following is not among the four layers of the object-oriented pyramid?

- The subsystem layers
- The class and object layer
- The abstract layer**
- The message layers

System models include:

- User business processes
- User activities for conducting the business process
- Processes that need to be automated
- All of the given options**

In the architecture trade-off analysis method the architectural style should be described using the

- Data flow view
- Module view
- Process view
- All of the given**

----- is concerned with decomposing the system into interacting sub-systems.

## **a) System structuring**

- b) Control Modelling
- c) Molecular Decomposition
- d) None of the given

A use case represents:

- A class, its attributes and operations
- An operation's interface and signature
- The role a user plays when interacting with the system**
- The system's functionality for a particular purpose

External entity may be:

- Source of input data only
- Source of input data and destination of results**
- Destination of results
- Repository of data

The process of utilizing our knowledge of computer science in effective production of

-----.

## **i. Chemical Engineering**

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- ii. Electrical Engineering
- iii. Computer Engineering
- iv. System Engineering

Coupling is a measure of ----- of a component.

- Independence

- Dependence
- Aggregation
- Composition

----- has become a standard notation for object-oriented system modelling:

- UML

- C++
- OCL(Object Constraint Language)
- None of the given option

An arrow in data flow diagram represents:

- Direction of flow of data

- Processing of data
- External agent
- Internal Agent

----- diagrams does not capture control flow information, it just shows the flow of data in a system.

- Sequence

- Data Flow

- Activity
- Class

In ----- the analyst determines the source of requirements and where do these requirements consume:

- Data flow analysis

- Source and sink analysis

- Down parsing
- Up parsing

Data cannot flow from one external entity to other external entity because:

- It will get corrupted

- It is not allowed in DFD

- An external entity has no mechanism to read or write
- Both are outside the context of the system

In the functional design, the structure of the system resolves around:

- Objects

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- Properties

- Functions**

- All of the given options

----- is one of the techniques to document domain knowledge

- State transition diagram**

- Feasibility matrix
- System matrix
- None of the given options

In case of ----- approach , decomposition of a problem revolves around data.

- Object-Oriented**

- Action-Oriented
- Event-Oriented
- Process-Oriented

The ----- relationship is a kind of a generalization specialization relationship:

- Bit-Byte
- Uses
- Binary

- Extends**

Which statement is not true about system software?

- Change request has direct impact on software
- Passes through a constant process of evolution
- Change requests have direct impact in the form of defects
- None of the given

Strong cohesion implies that:

- All parts of a component have a close logical relationship with each other**

- All parts of a component don't have a close relationship with each other
- Component is dynamic in nature
- Component is static in nature

The intent of Object-Oriented Analysis(OOA) is to define:

- All classes
- Relationships among classes
- Behaviour of classes

- All of the given options**

Requirement engineering focuses on ----- aspect of the software development process.

- Both what and how

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## ○ What

- How
- Why and how

----- relationship is concerned with classes, not with class instantiates.

- Association

## ○ Inheritance

- Aggregation
- Composition

Which of the following statements are true in context of the object model deviation through the Coad methodology?

- a) A place is also a contains
- b) Every container needs to be a place
- c) Same person may play different times in the system.
  - A only
  - A and b
  - **A and c**
  - All of the given

The goal of ----- is to translate the customer's desire for a set of defined capabilities into a working product.

- Electrical engineering
- **Product engineering**
- Hardware engineering
- Mechanical engineering

In case of a ----- message, the called routine that handles the message is completed before the caller resumes execution.

- Synchronous
- Asynchronous
- Bidirectional

## ○ A only

- ii. B only
- iii. C only
- iv. All of the given

In multiprocessing applications, different execution threads may pass information to one another by sending ----- to each other.

- Interrupt calls
- Synchronous messages
- **Asynchronous messages**
- System calls



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A car is made up of a body, three or four wheels, a steering mechanism, a breaking mechanism, and a power engine”

The above statement is example of:

- **Whole-part relationship**
- Inheritance
- Specialization
- Generalization

To help separate an object’s external behaviour from its implementation, the technique used is called -----

- Generalization
- Association
- Composition

○ **Abstraction**

Sequences of messages can be present in:

- (a) Use case diagram
- (b) Sequence diagram
- (c) Collaboration diagram
- a only
- b only
- c only
- **b and c**

Which of the following strategies lead to good software design:

- Separation of concerns
- Modularity
- Divide-and-conquer

○ **All of the given options**

Data flow model:

- Captures the flow of data in a system
- Helps in developing an understanding of system’s functionality
- Describes data origination, transformations and consumption in a system

○ **All of the given options**

----- requirements are often called product features.

- Functional

○ **Non-functional**

- Developer
- User

In the functional design, the structure of the system revolves around.

- Objects
- Properties

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## **o Functions**

- All of the given option

The first step in any OOA process model is to

## **o Build an object-relationship model.**

- Define collaborations between objects.
- Elicit customer requirements
- Select a representation language

The ----- relationship is kind of a generalization specialization relationship.

- Bit-byte
- Uses
- Binary

## **o Extends**

Regarding data flow model, which of the following statement(s) is true:

- It captures the transformation of data between processes/functions of a system
- o Processes on a data flow can operate in parallel**
- Only those processes are represented which we need to automate
- All of the given option

----- is an extremely powerful technique for dealing with complexity.

- Aggregation
- o Abstraction**
- Inheritance
- Association

In "point of sale system". the term "payment" represents

- Actor
- Participant

## **o Transaction**

- Container

The architecture components for product engineering are

## **o Data, hardware, software, people**

- Data, documentation, hardware, software
- Data, hardware, software, procedures
- Documentation, hardware, people, procedures

An object model encompasses the principle(s) of

- Abstraction
- Encapsulation
- Hierarchy or inheritance

## **o All of the given option**

Prototyping is used when there is ----- regarding requirements.

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## ○ **Uncertainty**

- Confirmation
- Conflict
- Consensus

In ----- phase of software development, requirement analyst focuses on possible design of the proposed solution.

- Maintenance
- Development

## ○ **Definition**

- Vision

At which stage of software development loop, results are delivered?

- Problem definition
- Solution integration
- Technical development

## ○ **Status quo**

A class will be cohesive if:

- Class does not implement complex interfaces
- Class does not have complex methods

## ○ **If most of the methods do not use most of the data members most of the time**

- If most of the methods use most of the data members most of the time.

A DFD is normally levelled (adding more levels of abstraction) as

- It is a good idea in design
- It is recommended by many experts
- It is easy to do it

## ○ **It is easier to read and understand a number of smaller DFDs than one large DFD**

Identify the true statement(s)

- An attribute that may have a number of values should be replaced by a new class and an object connection
- An attribute that varies over time, e.g. price of an item, should be replaced by an additional class with an affective data and value
- Replace "yes/no" type attribute with "status" type attributes for flexibility

## ○ **All of given option**

----- Is a technique in which we construct a model of an entity based upon its essential characteristics and ignore the inessential details.

- Inheritance

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- Polymorphism
- Aggregation
- Abstraction**

A structure is a manner of an organization which expresses a ----- strong organization within the problem domain.

- Semantically**
- Syntactically
- Graphically
- None of the given

An object model of a system captures the ----- structure of a system.

- Static**
- Dynamic
- Iterative
- Hierarchical

To determine the architectural style or combination of styles that best fits the proposed system, requirements engineering is used to uncover

- Algorithmic complexity
- Characteristics and constraints**
- Control and data
- Design patterns

Which statement is not according to the software engineering principles? Software engineering is a(n) \_\_\_\_\_

- Balancing act
- Disciplined approach
- Unsystematic approach**
- Quantifiable approach

In abbot's textual analysis technique, different part of speech is identified within the text of the specification and these part are modelled using different \_\_\_\_\_

- Event
- Process
- Operations
- Components**

Quantitative methods for assessing the quality of proposed architectural designs are readily available.

- True
- False**

In order to determine the role and responsibilities of the identified objects, we need to consider which of the following step(s):

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- a) Who I am?
- b) What I know?
- c) Who I know?
- d) What I do?
  - A only
  - A and b
  - B ,c and D

- **All of the given**

In object oriented design \_\_\_\_\_ layer contains the details that enable each object to communicates with its collaborators.

- Subsystem
- Responsibility
- **Message**
- Object

In sequence diagram, the boxes denote:

- **Objects (or classes)**
- Messages, sent from one object to other
- Life-time of objects
- None of the given option

In “ railway tickit reservation system” the roles such as enquiry. Reservation and ticketing and cancellation are to be performed by the user called:

- **Passenger**
- System analyst
- System developer
- System designer

Class responsibilities are defined by \_\_\_\_\_

- ii. Its attributes only
- iii. Its collaborators
- iv. Its operations only
- iv. Both its attributes and operations

Requirement engineering mainly deals with the \_\_\_\_\_ of the system

- Vision phase
- **Definition phase**
- Development phase
- Maintenance phase

In UML based object oriented model of a system, a composition relation between two objects is shown by a \_\_\_\_\_ sign on the whole side of a relation line.

- An unfilled diamond

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- A filled diamond
- A half diamond
- A dot

\_\_\_\_\_ analysis educates the analyst on business domain complexity and shows a way to deal with it.

- Domain**

- Use case
- Object collaboration
- None of the given options

In this case of \_\_\_\_\_ intra component linkages are stronger while inter component linkages are weak.

- High cohesion
- Low coupling
- Low cohesion

- High coupling**

An architectural style encompasses which of the following elements?

- Constraints
- Set of components
- Semantic models

- All of the given**

In software engineering paradigm, any engineering approach must be founded on organizational commitment to \_\_\_\_\_

- Cost
- Scheduling

- Quality**

- Performance

Identify the true statement:

- Normally object oriented design is more maintainable than functional oriented.**

- Software with functional oriented design does not fulfil non functional requirements.
- Object oriented design can not implement "separation of concerns" strategy
- Function oriented design does not lead to an efficient product

A process in data flow diagram (DFD) represents

- Flow of data

- Transformation of data**

- Storage of data
- An external agent

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A maintainable design is a design , which supports

- Change
- Debugging
- Adding new features
- All of the given**

Whole part structure is also called \_\_\_\_\_

- Generalization
- Aggregation**
- Specialization
- Association

\_\_\_\_\_ are kind of umbrella activities that are used to smoothly and successfully perform the construction activities.

- Design activities
- Management activities**
- Testing activities
- Maintenance activities

When you encounter both transform flow in the same DFD the flow is partitioned and the appropriate mapping technique is used on each part of the DFD.

- True**
- False

Software architecture must address ----- requirements of a software system.

- Functional
- Non-functional
- User Interface Requirements
- Both functional and non-functional.**

To construct a system model the engineer should consider one of the following restraining factors.

- Assumptions and constraints**
- Budget and expenses
- Data objects and operations
- Schedule and milestones

A cohesive class is one which emphasizes on ----- unit of functionality.

- Single
- Multiple**
- Static
- None

The best way to conduct a requirement validation review is to

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- Examine the system model for errors
- have the customer look over the requirements
- Send them to the design team and see if they have any concerns

- **Use a checklist of the questions to examine each requirement**

Defining the services of an object means:

- What it does?

- **What it knows?**

- Who knows it?

Which one of the following is the external quality of a software product?

- Correctness
- Concision
- Cohesion

- **Low coupling**

In Data Flow Diagram, the entity or system, outside the boundary of this system is called:

- Process
- Data flow
- **External agent**
- Data store

GUI stands for:

- Generic user Interface
- **Graphical user interface**
- Generic user interaction
- Graphical user interaction

Specialization means:

- Calling the same method with the object of child object
- Hiding the data
- **Creating new subclasses for an existing class**
- None of the given options

In a use case diagram, an ellipse signifies a(n):

- Actor
- Class
- **Use case**
- System boundary

Software development is a step-by-step process, and in ----- phase of software development

Business objective of an organization get cleared

- Maintenance
- Development



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- Definition

- Vision**

If you try to make software more user-friendly then the ----- may suffer.

- Reliability
- Software

- Efficiency**

- Cost

In object-oriented design, the structure of the system revolves around.

- Objects**

- Properties
- Methods
- All of the given option

In ----- relationship, a class shares the structure and behaviour defined in another class:

- Aggregation
- Composition

- Inheritance**

- Uses

In Object Oriented Design, combining the services offered by an object with the attributes they work on, results in:

- (a) Lower coupling and strong cohesion
- (b) Lower cohesion and strong coupling
- (c) Increased likelihood of reuse
  
- (d) Decrease the modularity of the system

- A only
- B and c only

- A and c only**

A change becomes ----- because of close presence of data and functions.

- Accessible
- Global
- Private

- Localized**

Software engineering is a ----- approach.

- Systematic
- Disciplined
- Scheduled

- All of the given options**

An external entity that interacts with the system is called a(n):

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Use case

**Actor**

Stakeholder

Association

More powerful hardware resulted into the development of -----powerful and ----- software.

Less, complex

**More , complex**

More, simple

Less, simple

A context diagram is used:

As a first step in developing a detailed DFD of a system

In systems analysis of very complex systems

**As an aid to system design**

As an aid to programmers

“ System should maintain transaction log of every system”

The above statement is an example of:

**Functional requirement**

Non-functional requirement

Pseudo requirement

None of these

The architectural model provides the software engineer with the view of the system as a whole:

**True**

False

As per Peter Coad's methodology , which of the following may not be a perfect candidate for being an object?

Zone

Recipient

Garage

**Password**

In the case of ----- approach , data is decomposed according to functionality requirements.

Object-oriented

**Action-oriented**

Event-oriented

Process-oriented

In UML based Object Oriented Model of a system, the diamond sign is used to depict -----

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- relations between two objects/classes.

- Aggregation and Association
- Inheritance and Association

## ○ **Composition and Aggregation**

- Composition, Aggregation and Association

The system specification describes the:

## ○ **Function and behavior of a computer-based system**

- Implementation of each allocated system element
- Algorithmic detail and data structures
- Time required for system simulation

In object oriented approach, ----- are the people and organizations that take part in the system under consideration:

## ○ **Actors**

- Places
- Participants

Software Design discusses ----- aspect of software development.

- What

## ○ **How**

- Who
- When

----- requirements cause frequent modifications in user interface.

- Functional
- Non-functional

## ○ **Unstable**

- User

By levelling a DFD ( adding more levels of abstraction) we mean:

## ○ **Splitting it into different levels**

- Make its structure uniform
- Expanding a process into one with more sub-processes giving more detail
- Summarizing a DFD to specify only these essentials

A "register" in "Point of Sale system" is an example of:

- Actor
- Participant

## ○ **Tangible thing**

- Transaction

----- is a set of processes and tools to develop software.

## ○ **Software engineering**

- Information

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- Software
- None of the given

The ----- on which program operates is also considered as part of the software.

**Data**

- Information
- Program
- None of the given

----- diagram provides a time-based view and collaboration diagrams which provide an organization based view of the system's dynamics.

- Data flow diagram
- Entity relationship diagram
- Class diagram

**Sequence diagram**

Synchronous messages are "call events" and are denoted by -----

**Full arrow**

- Half arrow
- <<create>>
- <<destroy>>

Which of the following are the components of system engineering software?

- Process
- Methods
- Tools

**All of the given**

Identifying system features include -----

- Log important information
- Conduct business
- Analyze business results

**All of the above**

----- is yet another technique that is used to reduce customer dissatisfaction at the requirement stage.

- Study of similar systems
- Site visits

**Prototyping**

- All of the above

Data store notation in DFD represents:

- Data input
- Data output

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## **Data input and data output**

- None of the above

The process of defining attributes is called -----

- Who know me?

## **What I know?**

- Whom I know?
- All of the above

The output of the design process is a description of the:

## **Software architecture**

- Software Code
- Software
- All of the above

Which of the following are the levels of software requirements?

- Business requirements
- User requirements
- Functional requirements

## **All of the above**

Given below are some statements associated with data flow diagrams. Identify the correct statement among them.

- Data flow is made used of to model what systems do
- Flows of data can take place from a process to a sink

## **Context diagrams shows the major system processes**

- All processes have to be labelled or decomposed

In which of the following diagram the actors and attributes are represented with system boundary?

- Data flow diagram
- Entity relationship diagram
- Class diagram

## **Use case diagram**

\_\_\_\_\_ is real looking mock\_up of what would be eventually delivered and might not do anything useful.

- Study of similar system
- Site visits

## **Prototyping**

- All of the above

\_\_\_\_\_ is blueprint for software construction.

## **Object oriented design**

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- Sequence design
- Software design
- All of the above

\_\_\_\_\_ requirements lead to ill-spent time and rework.

- Unacceptable
- Ambiguous**
- Dissatisfaction of customer
- None of the above

Which type of diagram is used to depict the dynamic behaviour of a system.

- ERD diagram
- DFD diagram
- Class diagram
- Collaborations diagram**

What is the most crucial non-functional requirement of a system to control radiation dosages that are emitted as treatment for cancer?

- Security
- Reliability
- Easy usability
- Accuracy**

A better design has an objective achieve

- High cohesion
- Low cohesion
- Low coupling
- High cohesion and low coupling**

Which of the following are the components of software engineering framework is combine the three remaining components?

- Process
- Method
- Tools**
- All of the above

In sequence diagrams the time required by the receiver object to process the message is denoted by an \_\_\_\_\_

- Activation box**
- Message line
- Life line
- All of the above

How many types of OOD modes have \_\_\_\_\_.

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- One
- Two**
- Three
- Four

Which notation is used to represent the process of the system in DFD model.

- Process**
- External agent
- Data flow
- Data store

Requirement engineering mainly deals with the \_\_\_\_\_ of the system

- Process
- Maintenance
- Development phase

- Definition phase**

Insufficient user involvement leads to \_\_\_\_\_ products.

- Unacceptable**
- Ambiguous
- Dissatisfaction of customer
- None of the above

Collaboration diagrams have basically two types of components: objects and \_\_\_\_\_

- Messages
- Method
- Classes

- None of the above**

In object-oriented analysis how many number of tasks must occurs \_\_\_\_\_.

- 1
- 2**
- 3
- None of the above

State transition diagram is helpful in determining \_\_\_\_\_.

- Data store
- Process flow

- Business understanding**

- None of the above

In sequence diagram events are organized in a \_\_\_\_\_ time life line.

- Vertical**

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- Horizontal
- Both A and B
- All of the above

Asynchronous messages are "signals," denoted by \_\_\_\_\_.

- Full arrow**
- Half arrow
- <<create>>
- <<destroy>>

When we write a program for computer and then we named it as \_\_\_\_\_.

- Data
- Information
- Software**
- None of the given

Context level diagram present in which of the following document.

- SRS-software requirement specification**
- Design document
- Test phase
- All of the above

\_\_\_\_\_ is diagram in which objects are interact with each other and these are arranged in a sequence.

- ERD diagrams
- Inheritance diagrams
- Class diagrams
- Sequence diagrams**

Which of the following layers are include in object-oriented design?

- The subsystem layers
- The class and object layer
- All of the above**
- The message layers

Which notation is used to represent the boundary of the system in DFD model?

- Process
- External agent**
- Data flow
- Data store

Identifying whole-part structures (aggregations) means what are my \_\_\_\_\_.

- Components**
- Structures
- Class



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- Object

An object or class may further be classified on the basis of \_\_\_\_\_ .

- Behaviour driven attributes
- Data driven attributes
- Responsibility driven attributes
- All of the above**

DFD notation contains

- Process
- External agent
- Data flow
- All of the above**

The dotted lines in sequence diagram are called \_\_\_\_ .

- Life line**
- Message line
- Entities line
- All of the above

An object may create another object via a \_\_\_\_\_ message .

- Full arrow
- half arrow
- <<create>>**
- <<destroy>>

How many levels of software requirements are \_\_\_\_\_?

- One
- Two
- Three
- Four**

Which of the following diagram has iterative activities?

- Data flow diagram
- Entity relationship diagram
- Class diagram
- Use case diagram**

Which of the items listed below is not one of the software engineering layers?

- Tools
- Manufacturing**
- Process
- Methods

Coupling is a measure of \_\_\_\_\_ a module or component.

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## Independent

- Dependent
- Closeness
- All of the given

Software maintenance phase involves

- Debugging
- Adding new features
- Making changes

## All of the given

The hardest single part of building a software system is deciding precisely \_\_\_\_\_ to build.

- When
- What
- Why
- All of the given

Interaction diagrams depict the \_\_\_\_\_ behaviour of the system.

- Static
- Active
- Dynamic
- None of the given

A \_\_\_\_\_ can be used to describe the dynamic behaviour of an object-oriented system.

- ERD diagrams
- Inheritance diagrams
- Class diagrams

## Series diagrams

The Use case diagram shows that which \_\_\_\_\_ interact with each use case.

- Use case
- Actor
- Component
- Relation

Transactions are the \_\_\_\_\_ that must be remembered through time.

## Events

- Action
- Triggers
- Methods

A necessary supplement to transform or transaction mapping needed to create a complete architectural design is

- Entity relationship diagrams

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- The data dictionary
- **Processing narratives for each module**
- Best cases for each module
  - i. ch module

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