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SUBJECT: OOCUML CODE: 203105207

ASSIGNMENT-1

**Q1.** **What is an object?**

*Solution:*  An object can be a variable, a data structure, a function, or a method, and as such, is a value in memory referenced by an identifier.

OBJECT = DATA STRUCTURE(attributes) + BEHAVIOR(operations)

**Q2.** **What is the main advantage of object-oriented development?**

*Solution:* a) Code and design reuse

b) Increased productivity

c) Ease of testing and maintanence

d) Better understandibility

e) Elegant design

* Loosely coupled, highly cohesive objects.
* Essential for solving large problems.

f) Initially incurs higher costs

* After completion of some projects reduction in cost become possible.

g) Using well-established OO methodology and environment:

* Projects can be managed with 20%--50% of traditional cost of development.

**Q3. What is object oriented System development methodology?**

*Solution:* Five aspects of OO approach (characteristics)

1. System Conception: Software development begins with business analysts or user conceiving an application and formulating tentative requirements.
2. Analysis: The analysts scrutinizes and rigorously restates the requirement from the system conception by constructing models. The analysis model is a precise abstraction of what the desired system must do, not how it will be done.
3. System Design: The development team devise a high-level strategy - the system architecture – for solving the application problem.
4. Class Design: The class designer adds details to the analysis model in accordance with system design strategy.
5. Implementation: Implementation translate the classes and relationships developed during class design into a particular programming language, database, or hardware.

**Q4. Distinguish between method and message in object.**

*Solution:* Method: A method is the code that actually gets run by that receiving object, after the system has looked up the match between the receiver and the message.

Message: A message is what you send, asking for something to be done by the object you've sent the message to.

**Q5. What is Analysis and Design?**

*Solution:* Analysis: It emphasizes on understanding, finding and describing concepts in the problem domain.

Design: It emphasizes on understanding and defining software solution /objects that represent the analysis concepts and will eventually be implemented in code.

**Q6. What is Object-Oriented Analysis and Design?**

*Solution:* Object-Oriented Analysis and Design(OOAD) is a software engineering approach that models a system as a group of interacting objects. A software development approach that emphasizes a logical solution based on objects.

**Q7. What is UML?**

*Solution:* UML stands for Unified Modelling Language.

It’s associated in nursing industry-standard graphical language for specifying, visualizing, constructing, and documenting the artifacts of computer code systems.