

**CP18104 – Advanced Software Engineering**

(Common to CP & NW)

(Regulation 2018)

Time: Three Hours

Maximum : 80 Marks

Answer **ALL** questions

**PART A - (8 X 2 = 16 Marks)**

1. The architectural model is derived from which of these sources?
  - A) Information about the application domain for the software to be built;
  - B) Specific requirements model elements such as data flow diagrams or analysis classes, their relationships and collaborations for the problem at hand;
  - C) The availability of architectural styles and patterns.

a. Both A & B      b. Both B & C      c. Both A & C      d. All mentioned above
2. Which of the following is a mechanism that allows several objects in an class hierarchy to have different methods with the same name?
  - a) Aggregation      b) Polymorphism      c) Inheritance      d) All of the mentioned
3. Which of the following early OOD methods incorporates both a “micro development process” and a “macro development process.” ?
  - a) Booch method      b) Rumbaugh method      c) Wirfs-Brock method
  - d) Coad and Yourdon method
4. Which of the following is not an operation as per OOD algorithms and data structures?
  - a) operations that manipulate data in some way
  - b) operations that perform a computation
  - c) operations that check for syntax errors
  - d) operations that monitor an object for the occurrence of a controlling event
5. Distinguish forward and reverse engineering with an example.
6. Highlight the importance of software reuse management with an example.
7. Give justification for software modularity and its importance in software development.
8. Distinguish Joint point and Point cut in aspect oriented programming?

**PART b - (4 X 16 = 64 Marks)**

11. (a) Explain the activities associated with object-oriented software engineering with (16) suitable examples.

**(OR)**

- (b) Explain the activity and entity centered software life cycle models with suitable examples. **(16)**

12. (a) edHEALTH began as a group of higher education institutions that set out to pinpoint opportunities for greater healthcare program efficiency and savings. Early on, they determined that in order to gain control over plan design, data and ultimately, cost, they would need to create their own self-funding mechanism. Through an extensive feasibility study conducted by their consulting and actuarial firm, Spring Consulting Group, they were able to identify the appropriate funding structure(s) that would meet the goals set by the consortium. Discuss the Health care policy system for edHEALTH with relevant use case, class and sequence diagrams. **(16)**

**(OR)**

- (b) Online shopping continues to grow in popularity, reflecting consumers' overall satisfaction with the ecommerce experience. Still, problems can sometimes arise. This backgrounder helps answer many questions consumers may have about shopping online safely, avoiding problems, dealing with customer service issues and resolving disputes. Discuss the online shopping process to address the above issues with relevant use case, class and sequence diagrams. **(16)**

13. (a) Highlight the importance of software architecture and illustrate different architectural styles with suitable applications. **(16)**

**(OR)**

- (b) How do you decide the suitable method of providing access control to ensure security for an application that supports multi user environment. **(16)**

14. (a) Discuss the testing activities and their related work products with a suitable example. **(16)**

**(OR)**

- (b) A distributed car parts catalog called MyCarParts allows car dealers and car owners alike to browse and order parts from their computer. Discuss the Configuration Management activities for MyCarParts. **(16)**