K.D.K. College of Engineering
Department of Information Technology
IV Semester (Session 2018-19)

Object Oriented Methodology

Unit-wise Questions Bank

UNIT-I

1. Differentiate between generalization and aggregation. **4**

2. Explain abstract & concrete class with suitable example. **5**

3. What is inheritance? Explain types of inheritance. **5**

4. State and discuss various stages of object modeling technique. **6**

5. Write short note on: **8**

i. Object
ii. Abstraction
iii. Encapsulation.
iv. Polymorphism

6. What do you mean by object orientation? Also explain the three models required for object oriented development. **7**

7. What do you mean by inheritance? Explain different types of inheritance. **6**

8. Differentiate between. **6**

a. Object & classes.
b. Links & association
c. Generalization & inheritance.

9. What is recursive aggregate? Explain propagation of operation with example. **7**

10. What do you mean by inheritance? Explain different types of inheritance. **6**

11. Explain three models of OOM. **6**

12. State the difference between generalization & aggregation with Example. **4**

13. Explain link & association with Example. **4**

14. Explain following terms with Example:- **6**

i) Object ii) Class iii)Role
iv) Qualifier v) Metadata vi) Candidate key

15. Explain multiple inheritance with suitable example. **5**

16. What is abstract class? Where it is used? **3**

17. What is model ? What purposes does a model serve ? **7**

18. Define object oriented modeling and design. Also discuss stages of OMT. **7**

19. Explain aggregation in detail. Also define what are recursive aggregates with example. **7**

20. Write a note on following. **7**

i) Link ii) Association
iii) Multiplicity iv) Propagation of operation
v) Abstract class vi) Metadata

UNIT-II

1. Explain data flow diagram in detail with suitable example. **7**

2. Explain state diagram. Draw one shot state diagram for simple chess game. **6**

3. Prepare scenario and event trace for making a telephone call. **7**

4. Explain state generalization and event generalization with suitable example. 6

5. Prepare a scenario for making a phone call & also provide a state diagram for phone call scenario. **10**

6. Explain events & concurrency. **4**

7. Explain the data flow diagram for deposit & withdrawal of cash from bank. **7**

8. Draw functional model for taking admission in college. 7

9. Draw functional model for taking admission in college. **7**

10. Explain simple state diagram & Nested state diagram along with Example. **5**

11. Define following with Example. **8**

i) Data flow ii) Data stores iii)Entry & Exit actions iv)Actor

12. Explain scenario & Event trace diagram for phone call. **6**

13. Explain functional modeling for library management system. Draw detail DFD. **7**

14. Define dynamic modelling. Explain components of state diagrams in detail. **8**

15. Draw the state diagram of traffic light at an intersection. One pair of electric eyes checks the north-south left turn lanes ; another pair checks the east west turn lanes. If no cars is in north-south and or east-west turn lanes then traffic control logic be smart to skip left turn portion of cycle. **5**

16. What are nested state diagram. Explain with example. **7**

17. Draw the data flow diagram of computing volume & surface area of cylinder. **6**

UNIT-III

1. State and explain the criteria for discarding unnecessary and incorrect associations. 6
2. Draw event trace diagram for ATM. **7**
3. Explain the steps performed in construction of object model. 6
4. Discuss the need of analysis phase in object oriented design. 7
5. What is need of analysis phase in OOD? Explain various phase of analysis in OOD. **14**
6. Prepare an event trace & event flow diagram for ATM. **8**
7. Draw & explain data flow for ATM transactions process. **6**
8. How the procedure driven, event driven & concurrent system differ from each other? Discuss it in detail. 6
9. Write short note on setting trade off priorities. **4**
10. Explain batch transformation & Write steps in designing the batch transformation. **5**
11. Explain continuous transformation with design steps. **5**
12. What is transaction manager. **3**
13. **D**raw & explain data flow for ATM transactions process. **6**
14. Explain steps carried out in construction of object model considering ATM network. **10**
15. Explain in short how analysis is carried in OMT. **3**
16. Draw state diagram for ATM machine. **6**
17. Draw Event trace diagram for ATM machine. **7**

UNIT-IV

1. Explain the architecture of ATM system. 6
2. Explain management of datastores. 4
3. Write about sub system allocation in system design. 7
4. Write short note on: 8
    a. Handling Global Resources.
    b. Handling Boundary Conditions
    c. Choosing Software Control.
    d. Setting Tradeoff Properties.
5. What are sub-systems? How sub-systems are allocated? 6
6. What is boundary condition & how they are handled? 3
7. Explain system design & various steps involved in it in detail.
8. Discuss advantages and disadvantages of using database.
9. Explain. 6
    i) Integrity constraints.
    ii) Documenting design Decisions.
10. What kind of adjustments are needed to increase the chance of Inheritance. 6
11. What are various issues involved in physical packing. 7
12. How algorithms are chosen during object design? Explain in detail. 6
13. Write a note on breaking a system in subsystems. 6
14. Write a short note on : **6**
    a. Handling global resources
    b. Choosing software control implementation.
15. Explain the issues that must be addressed while handling boundary conditions. 7
16. How the procedure driven, event driven & concurrent system differ from each other? Discuss it in detail. 9
17. Write short note on setting trade off priorities. 4
18. Explain batch transformation & Write steps in designing the batch transformation. 5
19. Explain continuous transformation with design steps. 6
20. What is transaction manager. 4

UNIT-V

1. What are the methods of object representation? Explain. 7
2. Write short note on: 6
   i. One way association.
   ii. Two way association
3. Explain physical packaging. 7
4. Write short note on: 6
   a. Design optimization.
   b. Adjustment of inheritance.
5. What kind of adjustments are needed to increase the chance of Inheritance. 6
6. What are various issues involved in physical packing. 7
7. How algorithms are chosen during object design? Explain in detail. 7
8. Explain. 6
   a. Integrity constraints.
   b. Documenting design Decisions.
9. Explain steps performed during object design. 6
10. Explain the implementation of 2 - way association using pointers. 7
11. Write Short Notes on. 8
    i) Physical packaging
    ii) Object representation.
    iii) Design optimization.
    iv) Algorithm design.
12. Explain the issues which must be considered while choosing among alternative algorithm. 6
13. Explain the technique of converting a state diagram to code. Also write the pseudo code for ATM control. 7
14. Explain the kinds of adjustments that can be used to increase the chances of inheritances. 6
15. What are one-way and two-way associations implementations. 6

UNIT-VI

1. Explain the role of programming in large in programming style. 7
2. Write short note on: 6
    a. Robustness
    b. Reusability.
    c. Extensibility
3. Explain SA/SD technique. 7
4. Explain 6
    a. Implementation using programming language.
    b. Implementation using database.
5. Explain the guidelines for programming in large. 6
6. Explain the at style rules for reusability. 7
7. Write short note on. 13
    i) Qualities of good user interface.
    ii) Extensibility
    iii) Robustness
    iv) Reusable components.
8. Write Short Notes on: 8
    i) Robustness.
    ii) Reusability.
    iii) Extensibility.
    iv) Object oriented style.
9. Explain database systems in detail. 6
10. Define extensibility. Also discuss the principles to enhance extensibility. 6
11. Define Reusability. What are kinds of reusability. Discuss the style rules for reusability. 6
12. Write a note on any three. 14
    i) Implementation using programming language.
    ii) Robustness
    iii) Programming in the large
    iv) Implementation using database system.