B.E. (Computer Engineering) Fourth Semester (C.B.S.)
## Object Oriented Methodology

P. Pages : 2                                                         **NRJ/KW/17/4447**

Time : Three Hours                    *0212*                    Max. Marks : 80

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Notes :   1.   All questions carry marks as indicated.
          2.   Solve Question 1 OR Questions No. 2.
          3.   Solve Question 3 OR Questions No. 4.
          4.   Solve Question 5 OR Questions No. 6.
          5.   Solve Question 7 OR Questions No. 8.
          6.   Solve Question 9 OR Questions No. 10.
          7.   Solve Question 11 OR Questions No. 12.
          8.   Due credit will be given to neatness and adequate dimensions.
          9.   Assume suitable data whenever necessary.
          10.  Diagrams and chemical equations should be given whenever necessary.
          11.  Illustrate your answers whenever necessary with the help of neat sketches.
          12.  Use of non programmable calculator is permitted.


**1.**  a)  Discuss object orientation and the need of object oriented development.   **4**

b)  Explain abstraction and encapsulation.                                           **4**

c)  Explain three models of OOM.                                                     **6**

## OR

**2.**  a)  Differentiate between generalization and aggregation.                     **4**

b)  What is inheritance? Explain types of inheritance.                               **5**

c)  Explain abstract & concrete class with suitable example.                         **5**

**3.**  a)  Explain state diagram and nested state diagram with example.             **7**

b)  Prepare scenario and event trace for making a telephone call.                    **6**

## OR

**4.**  a)  Explain data flow diagram in detail with suitable example.               **7**

b)  Explain state generalization and event generalization with suitable example.    **6**

**5.**  a)  Write note on refining object model.                                     **7**

b)  Draw state diagram for ATM.                                                      **6**

## OR

**6.**  a)  Draw event trace diagram for ATM.                                        **6**

b)  Explain the steps performed in construction of object model.                     **7**

| | | | |
|---|---|---|---|
| **7.** | a) | Draw and explain top level data flow diagram for ATM system. | **7** |
| | b) | Write a note on system design enlisting the system designers decisions and explaining any two of them. | **7** |

**OR**

| | | | |
|---|---|---|---|
| **8.** | a) | Explain batch transformation. | **4** |
| | b) | Explain the architecture of ATM system. | **4** |
| | c) | Explain management of data stores. | **6** |

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|---|---|---|---|
| **9.** | a) | How algorithms are chosen during object design? Explain in detail. | **7** |
| | b) | Write short note on. | **6** |
| | | i)    One way association. | |
| | | ii)    Two way association. | |

**OR**

| | | | |
|---|---|---|---|
| **10.** | a) | What are different issues involved in physical packaging? Explain. | **6** |
| | b) | What are the methods of object representation? Explain. | **7** |

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|---|---|---|---|
| **11.** | a) | Compare JSD with OMT. | **4** |
| | b) | Write short note on. | **9** |
| | | i)    Robustness. | |
| | | ii)    Reusability. | |
| | | iii)    Extensibility. | |

**OR**

| | | | |
|---|---|---|---|
| **12.** | a) | Explain the role of programming in large on programming style. | **7** |
| | b) | Explain. | **6** |
| | | i)    Implementation using programming language. | |
| | | ii)    Implementation using database. | |

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