

**TILAK MAHARASHTRA VIDYAPEETH, PUNE**  
**MASTER OF SCIENCE (M.Sc) in COMPUTER APPLICATIONS**  
**EXAMINATION : DECEMBER - 2023**  
**SEMESTER - II**

**Sub : Advanced Software Engineering (MSC-204-22)**

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**Date : 13/12/2023**

**Total Marks : 30**

**Time: 2.00 pm to 3.30 pm**

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***Instruction:***

1. All questions are compulsory unless and otherwise stated.
2. Bold figures to the right of every question are the maximum marks for that question.
3. Candidates are advised to attempt questions in order.
4. Answers written illegibly are likely to be marked zero.
5. Use of scientific calculators, Log tables, Mollier Charts is allowed.
6. Draw neat and labelled diagram wherever necessary.

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**Q. 1. Answer the following in short. (Any 4) (20)**

- 1 Explain the relationships in the UML.
- 2 Draw a UML component diagram with example.
- 3 Show the activities involved in the ATM transaction.
- 4 Give the detail note on super-sub class relationship and a-part-of relationship?
- 5 Explain the Use-case driven approach in object oriented system development with the payroll system.
- 6 Write a short note on waterfall model.

**Q. 2. Answer the following in detail. (Any 1) (10)**

1. Model a class diagram, use case diagram and sequence diagram for an inventory control system.
  2. Develop a use case, collaboration diagram and class diagram for banking system.
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