

**TILAK MAHARASHTRA VIDYAPEETH, PUNE**  
**MASTER OF COMPUTER APPLICATIONS**  
**EXAMINATION : MAY- 2024**  
**SEMESTER - I**

**Sub : Software Engineering & Testing (MCA- 103-22)**

**Date : 31/05/2024**

**Total Marks : 60**

**Time: 10.00 am to 12.30 pm**

**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.

**Q. 1. Answer the following in 2 - 3 lines. (Any 5) (10)**

1. Define component diagram.
2. What is stress testing?
3. Define interaction diagram.
4. Which diagrams give static view of the system?
5. What is the difference between static and dynamic testing?
6. What are the different levels of software testing?
7. Define agile development.

**Q. 2. Answer the following in short. (Any 4) (20)**

1. What is software engineering? How is it different from programming?
2. Explain the role of documentation in software engineering. Why is it important and what types of documentation are commonly used?
3. Discuss characteristics of a system.
4. What is the difference between functional and non-functional testing?
5. Write a short note on prototyping.
6. What are some common software development challenges, and how can they be addressed?

**Q. 3. Answer the following in detail. (Any 3) (30)**

1. Draw context level diagram for railway ticket reservation system.
2. Draw and discuss spiral model for system development.
3. What is software architecture? How does it differ from software design?
4. Describe the software development life cycle and its different stages.
5. Explain how waterfall model works on feedback control mechanism with illustrative diagram.

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