Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA - SEMESTER–V • EXAMINATION – SUMMER 2016

Subject Code: 650001 **Date:04-05-2016**

Subject Name: Software Engineering

Time: 10.30am to 01.00 pm **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1 Explain the following terms in brief. **14**

1) Agile Process
2) Abstraction
3) Modularity
4) Measures and Metrics
5) Time line charts
6) Open closed principle for component level design
7) Verification and Validation

Q.2 (a) Explain Prototype model with stating its advantages and disadvantages while using it as process model for software development. **07**

(b) List the XP values and explain XP process for agile development **07**

OR

(b) List the validation principles and explain Testing principles in detail. **07**

Q.3 (a) Describe various distinct tasks for requirement engineering. **07**

(b) Draw a context level diagram and data flow diagram – level 1 for Hospital management system describing various functions as patient treatment, investigations, admission for treatment, billing and doctors related to different specialization (departments). **07**

OR

Q.3 (a) Describe various Architectural styles for software architectural design. **07**

(b) Explain Formal technical review for quality control of software. **07**

Q.4 (a) Write short note on: **07**

1) Coupling
2) Cohesion

(b) Explain the three golden rules for user interface design. **07**

OR

Q.4 (a) Write short note on: **07**

1) Pattern languages and repositories
2) Pattern organizing table

(b) List various technical attributes for webapp design quality, and explain content architecture for webapp design in detail. **07**

Q.5 (a) Give the difference between White box testing and Black box testing. Explain Control structure testing for conventional applications in brief. **07**

(b) Explain Random testing and Partition testing at the class level for object-oriented applications. **07**

OR

Q.5 (a) What is the objective of security testing? Explain various aspects of security testing and options to protect against these vulnerabilities for web applications. **07**

(b) Explain the Function point (FP) metric used for measuring the functionality delivered by a system, in detail. **07**

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