

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA – SEMESTER – 5 • EXAMINATION – SUMMER 2018

Subject Code: 3650011

Date: 09-May-2018

Subject Name: Software Quality and Assurance (SQA)

Time: 10.30 am to 1.00 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 (a)** Answer the following questions. **07**
1. List the four components of a software system.
 2. What are the overall responsibilities of the top managements for software quality?
 3. List the possible phases of the development process according to SDLC.
 4. What is different between verification and validation?
 5. List out the elements of quality plan.
 6. What is Software testing?
 7. List the components of software maintenance.
- (b)** Explain the main environmental difficulties faced by software development and maintenance teams. **07**
- Q.2 (a)** List and briefly describe the various causes of software errors. **07**
- (b)** Discuss the difference between bottom-up and top-down testing strategies and explain the use of stubs and drivers. **07**
- OR
- (b)** Explain the structure (categories and factors) of McCall's classic factor model. **07**
- Q.3 (a)** Describe the model for SQA defect removal effectiveness and cost. **07**
- (b)** Explain the direct and indirect objectives of the review methodologies. **07**
- OR
- Q.3 (a)** Compare the three major review methodologies. **07**
- (b)** Explain the main advantages and disadvantages of automated tests in your own words. **07**
- Q.4 (a)** Explain the implementation of alpha and beta site test and discuss their advantages and disadvantages. **07**
- (b)** List the main managerial tools for controlling software maintenance quality and explain their importance. **07**
- OR
- Q.4 (a)** Explain the contribution of CASE tools to the quality of software maintenance. **07**
- (b)** List and explain the main approaches for introduction of CAPA. **07**
- Q.5 (a)** Discuss the issues covered by documentation control procedures. **07**
- (b)** Explain how software quality metrics are categorized. **07**
- OR
- Q.5 (a)** Describe the ISO 9000-3 certification process. **07**
- (b)** Describe tasks performed by the head of the SQA unit. **07**
