

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA– SEMESTER –V EXAMINATION –SUMMER-2019

Subject Code:3650011

Date: 10-05-2019

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 followings
1. How verification, validation and qualification are different from each other? **02**
 2. What is meant by software maintenance? Also define the three maintenance activities. **02**
 3. List out the project life cycle components. **01**
 4. Differentiate Prevention cost and Appraisal cost. **02**
- (b) Define software error, software fault and software failure. Describe the nine causes of software errors. **07**
- Q.2** (a) What are the three factor categories belonging to McCall's factor model? Also write about the differences between McCall's model and Deutsch and Willis model? **07**
- (b) What is the importance of contract review? Write about the contract review process and its stages. **07**
- OR**
- (b) Quality plans and development plans are required for small and internal projects. Justify the statement. Also discuss the recommended elements for both the plans for small and internal projects. **07**
- Q.3** (a) What is FDR? What are its objectives? Discuss FDR in detail. **07**
- (b) Illustrate with an example the model for SQA defect removal effectiveness and cost. **07**
How the comprehension model differs from the standard model?
- OR**
- Q.3** (a) Describe the testing process and its implementation in detail. List the advantages and disadvantages of alpha and beta site testing. **07**
- (b) What is white box testing? How the data processing and calculation correctness test is conducted in white box testing. Illustrate with an example. **07**
- Q.4** (a) What is contracting? Discuss the contracting structure. **07**
- (b) What is the difference between documentation control and control documents? Explain documentation control preparation, approval, storage and retrieval process in detail. **07**
- OR**
- Q.4** (a) Give an overview on training and certification process. **07**
- (b) When a metric is said to be successful? Discuss different product metrics in detail. **07**
- Q.5** (a) Define corrective and preventive actions. Explain, how the CAPA process works? **07**
- (b) Discuss the extended cost of software quality model. **07**
- OR**
- Q.5** (a) Discuss different managerial roles in Software quality assurance. **07**
- (b) Describe the ISO 9000-3 certification process. **07**
