

GUJARAT TECHNOLOGICAL UNIVERSITY**B. E. - SEMESTER – VII • EXAMINATION – WINTER 2012****Subject code: 173102****Date: 28/12/2012****Subject Name: Software Testing and Quality (Department Elective I)****Time: 10.30 am - 01.00 pm****Total Marks: 70****Instructions:**

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

- Q.1** (a) Define software quality. List and explain FIVE views of quality. **08**
(b) Define following terms : **06**
(1) Verification (2) Validation (3) Failure (4) Error (5) Fault (6) Defect
- Q.2** (a) What is unit testing? Explain static and dynamic unit testing. **07**
(b) What is Data Flow Anomaly? Explain three types of abnormal situations concerning the generation and use of data values. **07**
- OR**
- (b) What is Domain Error? List and explain types of domain error. **07**
- Q.3** (a) What is Control Flow Graph (CFG)? Explain symbols used in CFG with example. **07**
(b) Explain incremental approach for the system integration techniques. **07**
- OR**
- Q.3** (a) List and explain path selection criteria for CFG. **07**
(b) Explain sandwich approach for the system integration techniques. **07**
- Q.4** (a) What is functionality test? List types of it and explain any one of them. **07**
(b) Draw and explain abstraction of N entity in OSI reference architecture. **07**
- OR**
- Q.4** (a) What is interoperability test? How it is carried out for a software module? **07**
(b) Define McCall's quality factors. **07**
- Q.5** Attempt ANY TWO. **14**
(a) Draw and explain V model for development and testing phases of a system.
(b) What is Regression testing? Explain it for different levels of software testing.
(c) Define white box and black box testing. Differentiate both.
