Reg. No.										

MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

A Constituent Institution of Manipal University

V SEMESTER B.TECH. (INFORMATION TECHNOLOGY/COMPUTER AND COMMUNICATION ENGINEERING)

MAKE UP EXAMINATIONS, JANUARY 2017

SUBJECT: SOFTWARE QUALITY ENGINEERING [ICT 4016]

REVISED CREDIT SYSTEM
(07/01/2017)

Time: 3 Hours MAX. MARKS: 50

Instructions to Candidates:

- Answer **ALL** the questions.
- Missing data may be suitably assumed.

1A. Explain the following rules with suitable examples

a. The basic types of char, int, short, long, float and double should not be used, but specific-length equivalents should be typedef'd for the specific compiler, and these type names used in the code.

b. In an enumerator list, the '=' construct shall not be used to explicitly initialize members other than the first, unless all items are explicitly initialized. **5**

1B. Explain the different principles of intended to improve the quality of user interface design. **3**

1C. Differentiate the following software testing methods.

a. Branch testing
b. Condition coverage testing **2**

2A. What is software qualimetry? Explain SCQI method used for software qualimetry. **5**

2B. Differentiate medium scale embedded systems with sophisticated embedded systems. **3**

2C. Describe the categories of component and connectors architectural structures. **2**

3A. Explain with a neat diagram the software architectural pattern which is applicable for the software processing systems that must be able to posses parallel computation. **5**

3B. "Improving the quality of the product and reducing the development costs is the general principle of Software Quality". Justify this statement. **3**

3C. Depict the relationship between patterns, reference architecture and reference model with a suitable diagram. **2**

4A. Explain in detail any 5 methods of analysis phase in UX process? **5**

4B. Define the following:

a) Quality assurance

b) Software verification and validation

c) White box testing **3**

4C. Illustrate the standard format in which MISRA C rules are represented and explain each field. **2**

5A. Write the behavior and characteristics of processes at various levels of maturity model. **5**

5B. With the help of a scenario, illustrate the dynamic behaviour of pipes and filters architecture pattern. **3**

5C. What do you mean by industrial domain knowledge in the context of software development? Mention its significance. **2**