

Reg. No.



**MANIPAL INSTITUTE OF TECHNOLOGY**  
MANIPAL

*A Constituent Institution of Manipal University*

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

**MAKEUP EXAMINATIONS, DEC 2017/JAN 2018**

**SUBJECT: PROGRAM ELECTIVE VI – SOFTWARE ARCHITECTURE [ICT 4014]**

**REVISED CREDIT SYSTEM**

**(02/01/2018)**

Time: 3 Hours

MAX. MARKS: 50

**Instructions to Candidates:**

- ❖ Answer **ALL** the questions.
- ❖ Missing data, if any, may be suitably assumed.

- 1A.** List the components of Advanced Automation System with respect to Air Traffic Controller (ATC)? With a neat diagram explain physical view of Initial Sector Suite System (ISSS) of ATC. **5**
- 1B.** What do you mean by adaptable systems? Explain any four participating components of a microkernel pattern. **3**
- 1C.** Compare and contrast between peer review and inspection meetings. **2**
- 2A.** With the help of a neat block diagram of Architecture Business Cycle (ABC), explain the different activities which are involved in creating a software architecture. **5**
- 2B.** What is producer-consumer problem with respect to avionics system? How it is resolved using data banker module? **3**
- 2C.** What are the agenda to be discussed in vendor presentation meetings in which software architect is involved? **2**
- 3A.** What do you mean by tactics? Explain the availability tactics with suitable example. **5**
- 3B.** List and explain the business qualities that helps in shaping the system's architecture **3**
- 3C.** Explain the objectives of management and distributed technical meetings. Also bring out their difference. **2**
- 4A.** What are the reasons that made a work bench approach necessary for architecture reconstruction? Explain Information extraction activity in detail with guidelines. **5**
- 4B.** Depict the deployment diagram for ATM (Automated Teller Machine) system. **3**
- 4C.** With the help of a neat diagram, explain evolutionary delivery life cycle of a software architecture. **2**

- 5A.** What are the common issues faced by an architect while mapping the objects to Relational database? Explain three major approaches for mapping tables to classes with appropriate diagrams. **5**
- 5B.** 'Tactics are the building blocks upon which architectural patterns are built'-Justify this statement by taking the support of Active Object Pattern. **3**
- 5C.** Explain any four benefits of Model-View-Controller (MVC) architectural pattern. **2**