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| **SESSION** | **FEB-MAR 2025** |
| **PROGRAM** | **MASTER OF BUSINESS ADMINISTRATION (MBA)** |
| **SEMESTER** | **III** |
| **COURSE CODE & NAME** | **DITF302 SOFTWARE ENGINEERING** |
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**Assignment Set – 1**

**Q1. Explain the concept of layered approach of Software Engineering. Illustrate the various process activities in detail. 4+6**

**Ans 1.**

**Layered Approach in Software Engineering**

The layered approach in software engineering is a conceptual framework that emphasizes building software systematically by organizing activities into well-defined layers. This structure allows developers to understand, manage, and improve the software development process efficiently. Each layer represents a key aspect of software development, ensuring consistency, quality, and maintainability across the entire lifecycle.

**Layers of Software Engineering**

The layered technology approach in software engineering is generally composed of four

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**Q2. Write a detailed note on phases of Project management. Discuss process and project metrics in detail. 5+5**

**Ans 2.**

**Phases of Project Management**

Software project management involves planning, organizing, directing, and monitoring the software development process to achieve specific objectives. It can be divided into several structured phases, each with its specific goals and deliverables.

**1. Initiation Phase**

In this phase, the project’s goals are defined, and its feasibility is evaluated. The project

**Q3. Define SCM Process. Further to explain the tasks of SCM process. 1+9**

**Ans 3.**

**Definition of Software Configuration Management (SCM) Process**

Software Configuration Management (SCM) is the discipline of tracking and controlling changes in the software throughout its development lifecycle. It ensures that software artifacts like code, documentation, and requirements are systematically managed, maintained, and traceable. SCM aims to prevent conflicts, maintain consistency, and ensure that every

**Assignment Set – 2**

**4. Describe Software Design. Illustrate the software design process stages and explain.**

**Ans 4.**

**Definition of Software Design**

Software design is the process of translating software requirements into a blueprint for constructing the software system. It involves defining software architecture, components, interfaces, and data flow to guide programmers in developing the application. The goal is to create a plan that meets user needs, ensures performance, and supports maintainability.

**Stages of the Software Design Process**

**1. Requirement Analysis**

Before beginning the design, the software requirements are analyzed thoroughly. This

**Q5. Explain the concepts of White Box Testing with its components.**

**Ans 5.**

**Introduction to White Box Testing**

White Box Testing, also known as structural testing or clear box testing, is a software testing technique in which the internal structure, design, and coding of the software are tested. The tester has full visibility into the source code and uses this information to design test cases. The goal is to ensure that internal operations perform according to the design specifications and that all internal components have been adequately tested.

**Purpose and Importance**

White Box Testing is mainly used by developers during unit testing phases. It ensures code

**Q6. What is the purpose of the Capability Maturity Model (CMM)? Explain the levels of CMM in detail. 3+7**

**Ans 6.**

**Purpose of the Capability Maturity Model (CMM)**

The Capability Maturity Model (CMM) is a development framework introduced by the Software Engineering Institute (SEI) at Carnegie Mellon University. It is used to assess and improve the maturity of software development processes within organizations. The primary purpose of CMM is to help organizations improve their software development quality, predictability, efficiency, and delivery time. It provides a structured approach to measure how well an organization manages its software projects and identifies areas for process