

AMSW21 SOFTWARE MAINTENANCE AND ADMINISTRATION

UNIT-1 FUNDAMENTALS OF SOFTWARE MAINTENANCE

- 1.1 Meaning of software maintenance, software change, ongoing support, economic implications of modifying software, the nomenclature and image problem, software maintenance framework, potential solutions to maintenance problem.
- 1.2 Maintenance process models: Definition of critical appraisal of traditional process models, maintenance process models.
- 1.3 Program understanding: Aims of program comprehension, maintainers and their information needs comprehension process models, mental models,
- 1.4 Program comprehension strategies, factors that affect understanding, implications of comprehension theories and studies.

UNIT-2 REVERSE ENGINEERING

- 2.1 Definition, purposes and objectives, levels of reverse Engineering, supports techniques, benefits.
- 2.2 Reuse and reusability: Definitions, objective and benefit of reuse, approach to reuse, domain Analysis, COMPONENTS engineering, reuse process model, factors that impact upon reuse.
- 2.3 Maintenance measures, Definitions, objectives of software measurement, example measures, and guidelines for selecting maintenance measures.

UNIT-3 CONFIGURATION MANAGEMENT

- 3.1 Definition for configuration management, change control, documentation. Management and organizational issues, Management responsibilities,
- 3.2 Enhancing maintenance productivity, maintenance teams, personnel Education and Training, organization modes.

UNIT-4 BUILDING AND SUSTAINING MAINTAINABILITY

- 4.1 Quality Assurance, fourth generation languages, object oriented paradigms. Maintenance tools: Criteria for selecting tools, taxonomy of tools,
- 4.2 Program understanding and reverse engineering testing, configuration management, and other tasks. Past, present and future of software maintenance.

UNIT-5 SOFTWARE ADMINISTRATION

- 5.1 Analyzing system logs, operating system updates, patches, and configuration changes, performing backups. Installing and configuring new hardware and software.
- 5.2 Adding, removing, or updating user account information, resetting passwords, System performance tuning. Performing routine audits of systems and software.

References Book:

1. Roger S Pressman, “Software Engineering”, 6th edition, Tata McGraw-Hill, 2004.