



Mehran University of Engineering and Technology, Jamshoro
Department of Software Engineering

ORIGINAL SUBMITTED SYLLABUS

Title of Subject	:	MODERN COMPUTING PARADIGMS
Code	:	SE603
Discipline	:	Software Engineering (1 st Semester)
Effective	:	14 ME SE and onwards
Pre-requisite	:	None
Assessment	:	10% Sessional 30% Mid Semester 60% Final Semester Examination
Credit Hours	:	3+0
Minimum Contact Hours:		Marks : 100+00

Specific Objectives of course:

- To cover various aspects of modern computing paradigms including cluster management, resource sharing, resource scheduling, concepts about cloud computing etc.

Course outline:

- Theory of Computing paradigms, Parallel and Cluster Computing: The system and programming Models. MPI and the parallel Computing.
- Virtual organizations and Grid Computing Evolutions, Architecture, Applications. Grid computing tools/middleware/different kernels etc. Protocols/components/interfaces etc of the middleware.
- Computational and data intensive Grids. Trust management in Grids. Grid to Cloud Computing: Utility Computing
- Virtualization of Resources Clouds and virtualization system architecture. Grids Vs Clouds. Clouds are Grids?
- Cloud middleware and models. Web Services and the Clouds.
- Self-adaptive service or application design.
- Recent developments and future directions of the Computing

BOOKS RECOMMENDED

1. Market-Oriented Grid and Utility Computing” by **Buyya, Rajkumar**
2. Fundamentals of Grid Computing IBM” by **Ian Foster, Bertis viktors**
3. The grid: blueprint for a new computing infrastructure”. by **Ian Foster**

Approval:

Board of Studies:
AS&RB:
Academic Council:

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