

UNIVERSITY OF MADRAS
BACHELOR OF COMPUTER APPLICATIONS (BCA)
DEGREE PROGRAMME
SYLLABUS WITH EFFECT FROM 2023-2024

Year: III

Semester: VI

Grid Computing	320E6C
Common for B.C.A. , B.Sc.-CSc-wDS	
Credits 3	Lecture Hours:5 per week
<p>Learning Objectives: (for teachers: what they have to do in the class/lab/field)</p> <ul style="list-style-type: none"> • To provide the knowledge on the basic construction and use of Grid computing. • To know and understand the grid computing applications. • To assess the efficiency of the grid computing in solving large scale scientific problems 	
<p>Course Outcomes: (for students: To know what they are going to learn)</p> <p>CO1: To understand the basic elements and concepts related to Grid computing CO2: To identify the Grid computing toolkits and Framework. CO3: To know about the concepts of Virtualization CO4: To analyse the concept of service oriented architecture. CO5: To Gain knowledge on grid and web service architecture.</p>	

Units	Contents
I	Introduction: Early Grid Activity, Current Grid Activity, Overview of Grid Business areas, Grid Applications, Grid Infrastructures.
II	Grid Computing organization and their Roles: Organizations Developing Grid Standards, and Best Practice Guidelines, Global Grid Forum (GCF), Organization Developing Grid Computing Toolkits and Framework, Organization and building and using grid based solutions to solve computing, commercial organization building and Grid Based solutions.
III	Grid Computing Anatomy: The Grid Problem, The conceptual of virtual organizations, Grid Architecture and relationship to other distributed technology
IV	The Grid Computing Road Map: Autonomic computing, Business on demand and infrastructure virtualization, Service-Oriented Architecture and Grid, Semantic Grids.
V	Merging the Grid services Architecture with the Web Services Architecture: Service-Oriented Architecture, Web Service Architecture, XML messages and Enveloping, Service message description Mechanisms, Relationship between Web Services and Grid Services, Web services Interoperability and the role of the WS-I Organization.

Learning Resources:

Recommended Texts

1. Joshy Joseph and Craig Fellenstein, Grid computing, Pearson / IBM Press, PTR, 2004.

Reference Books

2. Ahmer Abbas and Graig computing, A Practical Guide to technology and applications, Charles River Media, 2003.

• **Web resources**