



Indra Ganesan

COLLEGE OF ENGINEERING

Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai
Accredited by NAAC with 'B+' Grade, 2(f) & 12B Status Institution by UGC

IG Valley, Madurai Main Road, Manikandam, Tiruchirappalli - 620012

NAAC DOCUMENTS

QUALITY INDICATOR FRAME WORK

CRITERION – 2

TEACHING-LEARNING AND EVALUATION

SUBMITTED BY

IQAC

INTERNAL QUALITY ASSURANCE CELL
INDRA GANESAN COLLEGE OF ENGINEERING





Indra Ganesan
COLLEGE OF ENGINEERING
Madurai Main Road (NH-45B), Manikandam, Tiruchirappalli - 620 012
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai
NAAC Accredited, 2(F) Status Institution by UGC



Criteria 2	Teaching-Learning and Evaluation	350
-------------------	---	------------

Key Indicator-2.6 Student Performances and Learning Outcome (90)

2.6.1 Programme Outcomes (POs) and Course Outcomes (COs) for all programmes offered by the institution are stated and displayed on website

**DEPARTMENT OF INFORMATION TECHNOLOGY
R2013**

INDRA GANESAN COLLEGE OF ENGINEERING

IG Valley, Manikandam, Tiruchirappalli, Tamil Nadu – 620 012, India
(Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai-25)

DEPARTMENT OF INFORMATION TECHNOLOGY REGULATION -2013

COURSE OUTCOMES

SEMESTER V

CS6551 COMPUTER NETWORKS

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C301.1	To Obtain the protocol layering and physical level communication.	1,2,3,4,5	1,2,3
C301.2	To analyze the performance of a network.	1,2,3,4,5	1,2,3
C301.3	To Utilize the various components required to build different networks.	1,2,3,4,5	1,2,3
C301.4	To learn the functions of network layer and the various routing protocols.	1,2,3,4,5	1,2,3
C301.5	To familiarize the functions and protocols of the Transport layer.	1,2,3,4,5	1,2,3
C301.6	Optimize the various application layer protocols.	1,2,3,4,5	1,2,3

Mapping of COs, C, PSOs with POs

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C301.1	3	2	1	1	1	-	-	-	-	-	-	-	1	3	3
C301.2	3	2	1	1	1	-	-	-	-	-	-	-	1	3	3
C301.3	3	2	1	1	1	-	-	-	-	-	-	-	1	2	2
C301.4	3	2	1	1	1	-	-	-	-	-	-	-	1	2	2
C301.5	3	2	1	1	1	-	-	-	-	-	-	-	1	1	1
C301.6	3	2	1	1	1	-	-	-	-	-	-	-	1	2	1
C301	3	2	1	1	1	-	-	-	-	-	-	-	1	2	1



Dr. G. Balakrishnan, M.E., Ph.D.,

Principal

Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

IT6501 GRAPHICS AND MULTIMEDIA

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C302.1	Effectively and creatively solve a wide range of graphic design problems	1,2,3,4,5,11,12	1,2,3
C302.2	Form effective and compelling interactive experiences for a wide range of audiences.	1,2,3,4,5,11,12	1,2,3
C302.3	Use various software programs used in the creation and implementation of multi-media (interactive, motion/animation, presentation, etc.).	1,2,3,4,5,11,12	1,2,3
C302.4	Discuss issues related to emerging electronic technologies and graphic design.	1,2,3,4,5,11,12	1,2,3
C302.5	Obtain Data and file format standards.	1,2,3,4,5,11,12	1,2,3
C302.6	Utilizing Multimedia authoring and user interface	1,2,3,4,5,11,12	1,2,3

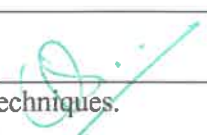
Mapping of COs, C, PSOs with POs

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C302.1	3	2	1	1	1	-	-	-	-	-	1	1	1	2	2
C302.2	3	2	1	1	1	-	-	-	-	-	1	1	1	2	2
C302.3	3	2	1	1	1	-	-	-	-	-	2	2	1	2	2
C302.4	3	2	1	1	1	-	-	-	-	-	2	2	1	2	2
C302.5	3	2	1	1	1	-	-	-	-	-	1	1	1	1	1
C302.6	3	2	1	1	1	-	-	-	-	-	1	1	1	2	1
C302	3	2	1	1	1	-	-	-	-	-	1	1	1	2	2

CS6502 OBJECT ORIENTED ANALYSIS AND DESIGN

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C303.1	Design and implement projects using OO concepts.	1,2,3,4,9,10,11,12	1,2,3
C303.2	Use the UML analysis and design diagrams.	1,2,3,4,5,9,10,11,12	1,2,3
C303.3	Apply appropriate design patterns.	1,2,3,4,5,9,10,11,12	1,2,3
C303.4	Create code from design.	1,2,3,4,9,10,11,12	1,2,3
C303.5	Compare and contrast various testing techniques.	1,2,3,4,5,9,10,11,12	1,2,3


Dr. G. Balakrishnan, M.A., M.E., Ph.D.
 Principal
 Indra Ganesan College of Engineering
 IG Valley, Madurai Main Road,
 Manikandam, Trichy-620 012.

Mapping of COs, C, PSOs with POs

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C303.1	3	2	1	1	-	-	-	-	3	1	2	1	1	3	3
C303.2	3	2	1	1	1	-	-	-	1	2	2	1	1	3	3
C303.3	3	2	1	1	1	-	-	-	2	3	1	2	1	2	2
C303.4	3	2	1	1	-	-	-	-	1	2	1	2	1	2	2
C303.5	3	2	1	1	1	-	-	-	1	3	1	1	1	1	1
C303	3	2	1	1	1	-	-	-	2	3	2	2	1	2	2

IT6502 DIGITAL SIGNAL PROCESSING

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C304.1	Perform frequency transforms for the signals.	1,2,3,4,9,10,11,12	1,2,3
C304.2	Design IIR and FIR filters	1,2,3,4,5,9,10,11,12	1,2,3
C304.3	Finite word length effects in digital filters	1,2,3,4,5,9,10,11,12	1,2,3

Mapping of COs, C, PSOs with POs

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C304.1	3	2	1	1	-	-	-	-	3	1	2	1	1	3	3
C304.2	3	2	1	1	1	-	-	-	1	2	2	1	1	3	3
C304.3	3	2	1	1	1	-	-	-	2	3	1	2	1	2	2
C304	3	2	1	1	1	-	-	-	2	3	2	2	1	2	2

IT6503 WEB PROGRAMMING

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C305.1	Design two dimensional graphicsApply three dimensional transformations.	1,2,3,4,9,10,11,12	1,2,3
C305.2	Apply two dimensional transformations.	1,2,3,4,5,9,10,11,12	1,2,3
C305.3	Design three dimensional graphics.	1,2,3,4,5,9,10,11,12	1,2,3
C305.4	Apply Illumination and color models	1,2,3,4,5,9,10,11,12	1,2,3
C305.5	Apply clipping techniques to graphics	1,2,3,4,5,9,10,11,12	1,2,3
C305.6	Design animation sequence	1,2,3,4,5,9,10,11,12	1,2,3

Mapping of COs, C, PSOs with POs


Dr. G. Balakrishnan, M.E., Ph.D.,
Principal

Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 002

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C305.1	3	2	1	1	-	-	-	-	3	1	2	1	1	3	3
C305.2	3	2	1	1	1	-	-	-	1	2	2	1	1	3	3
C305.3	3	2	1	1	1	-	-	-	2	3	1	2	1	2	2
C305.4	3	2	1	1	-	-	-	-	1	2	1	2	1	2	2
C305.5	3	2	1	1	1	-	-	-	1	3	1	1	1	1	1
C305.6	3	2	1	1	1	-	-	-	2	1	1	1	1	2	1
C305	3	2	1	1	1	-	-	-	2	3	2	2	1	2	2

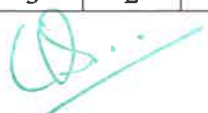
EC6801 WIRELESS COMMUNICATION

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C306.1	Design two dimensional graphicsApply three dimensional transformations.	1,2,3,4,9,10,11,12	1,2,3
C306.2	Apply two dimensional transformations.	1,2,3,4,5,9,10,11,12	1,2,3
C306.3	Design three dimensional graphics.	1,2,3,4,5,9,10,11,12	1,2,3
C306.4	Apply Illumination and color models	1,2,3,4,5,9,10,11,12	1,2,3
C306.5	Apply clipping techniques to graphics	1,2,3,4,5,9,10,11,12	1,2,3
C306.6	Design animation sequence	1,2,3,4,5,9,10,11,12	1,2,3

Mapping of COs, C, PSOs with POs

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C306.1	3	2	1	1	-	-	-	-	3	1	2	1	1	3	3
C306.2	3	2	1	1	1	-	-	-	1	2	2	1	1	3	3
C306.3	3	2	1	1	1	-	-	-	2	3	1	2	1	2	2
C306.4	3	2	1	1	-	-	-	-	1	2	1	2	1	2	2
C306.5	3	2	1	1	1	-	-	-	1	3	1	1	1	1	1
C306.6	3	2	1	1	1	-	-	-	2	1	1	1	1	2	1
C306	3	2	1	1	1	-	-	-	2	3	2	2	1	2	2


Dr. G. Balakrishnan, M.E., Ph.D.,
 Principal
 Indra Ganesan College of Engineering
 IG Valley, Madurai Main Road
 Manikandam, Trichy-620 012,

IT6511 NETWORK LABORATORY

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C307.1	Design Web pages using HTML/XML and style sheets	POs	PSOs
C307.2	Create user interfaces using Java frames and applets.	1,2,3,4,5,11,12	1,2,3
C307.3	Create dynamic web pages using server side scripting.	1,2,3,4,5,11,12	1,2,3
C307.4	Write Client Server applications.	1,2,3,4,5,11,12	1,2,3
C307.5	Use the frameworks JSP Strut, Hibernate, Spring	1,2,3,4,5,11,12	1,2,3
C307.6	Create applications with AJAX	1,2,3,4,5,11,12	1,2,3

Mapping of COs, C, PSOs with POs

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C307.1	3	2	1	1	1	-	-	-	-	-	2	1	1	3	3
C307.2	3	2	1	1	1	-	-	-	-	-	2	1	1	3	3
C307.3	3	2	1	1	1	-	-	-	-	-	1	2	1	2	2
C307.4	3	2	1	1	1	-	-	-	-	-	1	2	1	2	2
C307.5	3	2	1	1	1	-	-	-	-	-	1	1	1	1	1
C307.6	3	2	1	1	1	-	-	-	-	-	1	1	1	2	1
C307	3	2	1	1	1	-	-	-	-	-	2	2	1	2	2

IT6512 WEB PROGRAMMING LABORTAORY

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C308.1	Create 3D graphical scenes using open graphics library suits	1,2,3	1
C308.2	Implement image manipulation and enhancement	1.2.3	1
C308.3	Create 2D animations using tools	1.2.3	1

Mapping of COs, C, PSOs with POs

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C308.1	3	2	1	-	-	-	-	-	-	-	-	-	1	-	-
C308.2	3	2	1	-	-	-	-	-	-	-	-	-	1	-	-
C308.3	3	2	1	-	-	-	-	-	-	-	-	-	1	-	-
C308	3	2	1	-	-	-	-	-	-	-	-	-	1	-	-



Dr. G. Balakrishnan, M.E., Ph.D.,
Principal

Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

CS6511 CASE TOOLS LABORATORY

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C309.1	Design and implement projects using OO concepts	1,2,3,4,9,10,11,12	1,2,3
C309.2	Use the UML analysis and design diagrams.	1,2,3,4,5,9,10,11,12	1,2,3
C309.3	Apply appropriate design patterns.	1,2,3,4,5,9,10,11,12	1,2,3
C309.4	Create code from design.	1,2,3,4,9,10,11,12	1,2,3
C309.5	Compare and contrast various testing techniques	1,2,3,4,5,9,10,11,12	1,2,3

Mapping of COs, C, PSOs with POs

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C309.1	3	2	1	1	-	-	-	-	3	1	2	1	1	3	3
C309.2	3	2	1	1	1	-	-	-	1	2	2	1	1	3	3
C309.3	3	2	1	1	1	-	-	-	2	3	1	2	1	2	2
C309.4	3	2	1	1	-	-	-	-	1	2	1	2	1	2	2
C309.5	3	2	1	1	1	-	-	-	1	3	1	1	1	1	1
C309	3	2	1	1	1	-	-	-	2	3	2	2	1	2	2



Dr. G. Balakrishnan, M.E., Ph.D.,

Principal

Indra Ganesan College of Engineering

IG Valley, Madurai Main Road

Manikandam, Trichy-620 012.

SEMESTER VI

CS6601 DISTRIBUTED SYSTEMS

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C301.1	Discuss trends in Distributed Systems.	1,2,3,4,9,10,11,12	1,2,3
C301.2	Apply network virtualization	1,2,3,4,5,9,10,11,12	1,2,3
C301.3	Apply remote method invocation and objects	1,2,3,4,5,9,10,11,12	1,2,3
C301.4	.Design process and resource management systems.	1,2,3,4,9,10,11,12	1,2,3

Mapping of COs, C, PSOs with POs

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C301.1	3	2	1	1	-	-	-	-	3	1	2	1	1	3	3
C301.2	3	2	1	1	1	-	-	-	1	2	2	1	1	3	3
C301.3	3	2	1	1	1	-	-	-	2	3	1	2	1	2	2
C301.4	3	2	1	1	-	-	-	-	1	2	1	2	1	2	2
C301	3	2	1	1	1	-	-	-	2	3	2	2	1	2	2

IT 6601 - MOBILE COMPUTING

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C302.1	Explain the basics of mobile telecommunication system.	1,2,3,4,9,10,11,12	-
C302.2	Choose the required functionality at each layer for given application.	,2,3,4,5,9,10,11,12	-
C302.3	Identify solution for each functionality at each layer.	,2,3,4,5,9,10,11,12	-
C302.4	Use simulator tools and design Ad hoc networks.	1,2,3,4,9,10,11,12	-
C302.5	Develop a mobile application.	,2,3,4,5,9,10,11,12	-

Mapping of COs, C, PSOs with POs

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C302.1	3	2	1	1	-	-	-	-	3	1	2	1	-	-	-
C302.2	3	2	1	1	1	-	-	-	1	2	2	1	-	-	-
C302.3	3	2	1	1	1	-	-	-	2	3	1	2	-	-	-
C302.4	3	2	1	1	-	-	-	-	1	2	1	2	-	-	-
C302.5	3	2	1	1	1	-	-	-	1	3	1	1	-	-	-
C302	3	2	1	1	1	-	-	-	2	3	2	2	-	-	-

Dr. G. Balakrishnan, M.E., Ph.D.,
 Principal
 Indra Ganesan College of Engineering
 IG Valley, Madurai Main Road
 Manikandam, Trichy-620 012.

CS6659 ARTIFICIAL INTELLIGENCE

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C303.1	Identify problems that are amenable to solution by AI methods. Implement basic AI algorithms.	1,2,3,4,9,10,11,12	1,2,3
C303.2	Identify appropriate AI methods to solve a given problem	1,2,3,4,9,10,11,12	1,2,3
C303.3	Formalise a given problem in the language/framework of different AI methods.	1,2,3,4,9,10,11,12	1,2,3
C303.4	Design and carry out an empirical evaluation of different algorithms on a problem	1,2,3,4,9,10,11,12	1,2,3
C303.5	Formalisation, and state the conclusions that the evaluation supports.	1,2,3,4,9,10,11,12	1,2,3

Mapping of COs, C, PSOs with POs

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C303.1	3	2	1	1	-	-	-	-	3	1	2	1	1	3	3
C303.2	3	2	1	1	-	-	-	-	1	2	2	1	1	3	3
C303.3	3	2	1	1	--	-	-	-	2	3	1	2	1	2	2
C303.4	3	2	1	1	-	-	-	-	1	2	1	2	1	2	2
C303.5	3	2	1	1	-	-	-	-	1	3	1	1	1	1	1
C303	3	2	1	1	-	-	-	-	2	3	2	2	1	2	2

CS6660 COMPILER DESIGN

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C304.1	Design and implement a prototype compiler	1,2,3,4,9,10,11,12	1,2,3
C304.2	Apply the various optimization techniques.	1,2,3,4,5,9,10,11,12	1,2,3
C304.3	Use the different compiler construction tools.	1,2,3,4,5,9,10,11,12	1,2,3

Mapping of COs, C, PSOs with POs

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C304.1	3	2	1	1	-	-	-	-	3	1	2	1	1	3	3
C304.2	3	2	1	1	1	-	-	-	1	2	2	1	1	3	3
C304.3	3	2	1	1	1	-	-	-	2	3	1	2	1	2	2
C304	3	2	1	1	1	-	-	-	2	3	2	2	1	2	2


Dr. G. Balakrishnan, M.E., Ph.D.,

Principal

Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

IT 6602 - SOFTWARE ARCHITECTURE

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C305.1	Explain the basics of mobile telecommunication system.	1,2,3,4,9,10,11,12	-
C305.2	Choose the required functionality at each layer for given application.	,2,3,4,5,9,10,11,12	-
C305.3	Identify solution for each functionality at each layer.	,2,3,4,5,9,10,11,12	-
C305.4	Use simulator tools and design Ad hoc networks.	1,2,3,4,9,10,11,12	-
C305.5	Develop a mobile application.	,2,3,4,5,9,10,11,12	-

Mapping of COs, C, PSOs with POs

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C305.1	3	2	1	1	-	-	-	-	3	1	2	1	-	-	-
C305.2	3	2	1	1	1	-	-	-	1	2	2	1	-	-	-
C305.3	3	2	1	1	1	-	-	-	2	3	1	2	-	-	-
C305.4	3	2	1	1	-	-	-	-	1	2	1	2	-	-	-
C305.5	3	2	1	1	1	-	-	-	1	3	1	1	-	-	-
C305	3	2	1	1	1	-	-	-	2	3	2	2	-	-	-

GE6757 TOTAL QUALITY MANAGEMENT

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C306.1	To utilize Evolution Of Quality - Definitions Of Quality -	1,2,3,4,9,10,11,12	-
C306.2	To develop Tqm Principles	,2,3,4,5,9,10,11,12	-
C306.3	To find The Seven Traditional Tools Of Quality - New Management Tools	,2,3,4,5,9,10,11,12	-
C306.4	Use Quality Circles - Cost Of Quality - Quality Function Deployment (Qfd)	1,2,3,4,9,10,11,12	-
C306.5	Explain the Environmental Management System:	,2,3,4,5,9,10,11,12	-

Mapping of COs, C, PSOs with POs

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C306.1	3	2	1	1	-	-	-	-	3	1	2	1	-	-	-
C306.2	3	2	1	1	1	-	-	-	1	2	2	1	-	-	-
C306.3	3	2	1	1	1	-	-	-	2	3	1	2	-	-	-
C306.4	3	2	1	1	-	-	-	-	1	2	1	2	-	-	-
C306.5	3	2	1	1	1	-	-	-	1	3	1	1	-	-	-
C306	3	2	1	1	1	-	-	-	2	3	2	2	-	-	-

Dr. G. Balakrishnan, M.E., Ph.D.,
 Principal
 Indra Ganesan College of Engineering
 IG Valley, Madurai Main Road
 Manikandam, Trichy-620 012.

IT6611 MOBILE APPLICATION DEVELOPMENT LABORATORY

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C307.1	Design and Implement various mobile applications using emulators.	1,2,3,4,9,10,11,12	3
C307.2	Deploy applications to hand-held devices	1,2,3,4,9,10,11,12	3

Mapping of COs, C, PSOs with POs

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C307.1	3	2	1	1	-	-	-	-	-	3	1	2	1	1	3
C307.2	3	2	1	1	-	-	-	-	-	1	2	2	1	1	3
C307	3	2	1	1	-	-	-	-	-	2	3	2	2	1	3

IT6612 COMPILER LABORATORY

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C308.1	Implement the different Phases of compiler using tools	1,2,3,4,9,10,11,12	1,2,3
C308.2	Analyze the control flow and data flow of a typical program	1,2,3,4,5,9,10,11,12	1,2,3
C308.3	Optimize a given program	1,2,3,4,5,9,10,11,12	1,2,3
C308.4	Generate an assembly language program equivalent to a source language program	1,2,3,4,9,10,11,12	1,2,3


Mapping of COs, C, PSOs with POs

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C308.1	3	2	1	1	-	-	-	-	3	1	2	1	1	3	3
C308.2	3	2	1	1	1	-	-	-	1	2	2	1	1	3	3
C308.3	3	2	1	1	1	-	-	-	2	3	1	2	1	2	2
C308.4	3	2	1	1	-	-	-	-	1	2	1	2	1	2	2
C308	3	2	1	1	1	-	-	-	2	3	2	2	1	2	2

GE6674 COMMUNICATION AND SOFT SKILLS- LABORATORY BASED

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C309.1	Take international examination such as IELTS and TOEFL	1,2,3,4,10,11,12	1
C309.2	Make presentations and Participate in Group Discussions	1,2,3,4,10,11,12	1
C309.3	Successfully answer questions in interviews	1,2,3,4,10,11,12	1


Dr. G. Balakrishnan, M.E., Ph.D.
 Principal
 Indra Ganesan College of Engineering
 IG Valley, Madurai Main Road
 Manikandam, Trichy-620 012.

Mapping of COs, C, PSOs with POs

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C309.1	3	2	1	1	-	-	-	-	-	1	2	1	1	-	-
C309.2	3	2	1	1	1	-	-	-	-	2	2	1	1	-	-
C309.3	3	2	1	1	1	-	-	-	-	3	1	2	1	-	-
C309	3	2	1	1	1	-	-	-	-	3	2	2	1	-	-



Dr. G. Balakrishnan, M.E., Ph.D.,
Principal
Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

SEMESTER VII

IT6701 INFORMATION MANAGEMENT

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C401.1	Implement Java programs.	1,2,3,4,5,11,12	1,2,3
C401.2	Create a basic website using HTML and Cascading Style Sheets.	1,2,3,4,5,11,12	1,2,3
C401.3	Design and implement dynamic web page with validation using JavaScript objects and by	1,2,3,4,5,11,12	1,2,3
C401.4	Applying different event handling mechanisms.	1,2,3,4,5,11,12	1,2,3
C401.5	Design rich client presentation using AJAX.	1,2,3,4,5,11,12	1,2,3
C401.6	Design and implement simple web page in PHP, and to present data in XML format.	1,2,3,4,5,11,12	1,2,3

Mapping of COs, C, PSOs with POs

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C401.1	3	2	1	1	1	-	-	-	-	-	1	1	1	2	2
C401.2	3	2	1	1	1	-	-	-	-	-	1	1	1	2	2
C401.3	3	2	1	1	1	-	-	-	-	-	2	2	1	2	2
C401.4	3	2	1	1	1	-	-	-	-	-	2	2	1	2	2
C401.5	3	2	1	1	1	-	-	-	-	-	1	1	1	1	1
C401.6	3	2	1	1	1	-	-	-	-	-	1	1	1	2	1
C401	3	2	1	1	1	-	-	-	-	-	1	1	1	2	2

CS6701 CRYPTOGRAPHY AND NETWORK SECURITY

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C402.1	Compare various Cryptographic Techniques	1,2,3,4,9,10,11,12	1,2,3
C402.2	Design Secure applications	1,2,3,4,5,9,10,11,12	1,2,3
C402.3	Inject secure coding in the developed applications	1,2,3,4,5,9,10,11,12	1,2,3

Dr. G. Balakrishnan, M.E., Ph.D.,

Principal

Indra Ganesan College of Engineering

IG Valley, Madurai Main Road

Manikandam, Trichy-620 012.

Mapping of COs, C, PSOs with POs

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C402.1	3	2	1	1	-	-	-	-	3	1	2	1	1	3	3
C402.2	3	2	1	1	1	-	-	-	1	2	2	1	1	3	3
C402.3	3	2	1	1	1	-	-	-	2	3	1	2	1	2	2
C402	3	2	1	1	1	-	-	-	2	3	2	2	1	2	2

IT6702 DATA WARE HOUSING AND DATA MINING

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C403.1	Write precise and accurate mathematical definitions of objects in graph theory.	1,2,3,4,9,10,11,12	1,2,3
C403.2	Use mathematical definitions to identify and construct examples and to distinguish examples from non examples	1,2,3,4,5,9,10,11,12	1,2,3
C403.3	Validate and critically assess a mathematical proof	1,2,3,4,5,9,10,11,12	1,2,3
C403.4	Use a combination of theoretical knowledge and independent mathematical thinking in creative	1,2,3,4,9,10,11,12	1,2,3
C403.5	investigation of questions in graph theory. Reason from definitions to construct mathematical proofs	1,2,3,4,5,9,10,11,12	1,2,3


Mapping of COs, C, PSOs with POs

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C403.1	3	2	1	1	-	-	-	-	3	1	2	1	1	3	3
C403.2	3	2	1	1	1	-	-	-	1	2	2	1	1	3	3
C403.3	3	2	1	1	1	-	-	-	2	3	1	2	1	2	2
C403.4	3	2	1	1	-	-	-	-	1	2	1	2	1	2	2
C403.5	3	2	1	1	1	-	-	-	1	3	1	1	1	1	1
C403	3	2	1	1	1	-	-	-	2	3	2	2	1	2	2

CS6703 GRID AND CLOUD COMPUTING

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C404.1	Apply grid computing techniques to solve large scale scientific problems.	1,2,3,4,9,10,11,12	2,3
C404.2	Apply the concept of virtualization	1,2,3,4,5,9,10,11,12	2,3
C404.3	Use the grid and cloud tool kits	1,2,3,4,5,9,10,11,12	2,3
C404.4	Apply the security models in the grid and the cloud environment	1,2,3,4,9,10,11,12	2,3


Dr. G. Balakrishnan, M.E., Ph.D
 Principal
 Indra Ganesan College of Engineering
 IG Valley, Madurai Main Road
 Manikandam, Trichy-620 012.

Mapping of COs, C, PSOs with POs

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C404.1	3	2	1	1	-	-	-	-	3	1	2	1	-	3	3
C404.2	3	2	1	1	1	-	-	-	1	2	2	1	-	3	3
C404.3	3	2	1	1	1	-	-	-	2	3	1	2	-	2	2
C404.4	3	2	1	1	-	-	-	-	1	2	1	2	-	2	2
C404	3	2	1	1	1	-	-	-	1	3	1	1	-	1	1

IT6005 DIGITAL IMAGE PROCESSING

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C405.1	Solve optimization problems using simplex method	1,2,3,4,10,11,12	1,2
C405.2	Apply integer programming and linear programming to solve real-life applications.	1,2,3,4,10,11,12	1,2
C405.3	Use PERT and CPM for problems in project management	1,2,3,4,10,11,12	1,2

Mapping of COs, C, PSOs with POs

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C405.1	3	3	3	3	-	-	-	-	-	1	2	1	1	3	3
C405.2	3	3	3	3	-	-	-	-	-	2	2	1	1	3	3
C405.3	3	3	3	3	-	-	-	-	-	3	1	2	1	2	2
C405	3	3	3	3	-	-	-	-	-	3	2	2	1	2	2

IT6711 DATA MINING LABORATORY

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C406.1	Explain the architecture of embedded processors.	1,2,3,4,5,9,10,11,12	1,2,3
C406.2	Write embedded C programs.	1,2,3,4,5,9,10,11,12	1,2,3
C406.3	Design simple embedded applications	1,2,3,4,5,9,10,11,12	1,2,3

Mapping of COs, C, PSOs with POs

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C406.1	3	2	1	1	1	-	-	-	3	1	2	1	1	3	3
C406.2	3	2	1	1	1	-	-	-	1	2	2	1	1	3	3
C406.3	3	2	1	1	1	-	-	-	2	3	1	2	1	2	2
C406	3	2	1	1	1	-	-	-	2	3	2	2	1	2	2

Dr. G. Balakrishnan, M.E., Ph.D.,

Principal

Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

CS6711 SECURITY LABORATORY

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C407.1	Explain the architecture of embedded processors.	1,2,3,4,5,9,10,11,12	1,2,3
C407.2	Write embedded C programs.	1,2,3,4,5,9,10,11,12	1,2,3
C407.3	Design simple embedded applications	1,2,3,4,5,9,10,11,12	1,2,3

Mapping of COs, C, PSOs with POs

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C407.1	3	2	1	1	1	-	-	-	3	1	2	1	1	3	3
C407.2	3	2	1	1	1	-	-	-	1	2	2	1	1	3	3
C407.3	3	2	1	1	1	-	-	-	2	3	1	2	1	2	2
C407	3	2	1	1	1	-	-	-	2	3	2	2	1	2	2

CS6712 GRID AND CLOUD COMPUTING LABORATORY

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C408.1	Use the grid and cloud tool kits	1,2,3,4,10,11,12	1,2,3
C408.2	Design and implement applications on the Grid.	1,2,3,4,10,11,12	1,2,3
C408.3	Design and Implement applications on the Cloud.	1,2,3,4,10,11,12	1,2,3

Mapping of COs, C, PSOs with POs

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C408.1	3	2	1	1	-	-	-	-	-	1	2	1	1	3	3
C408.2	3	2	1	1	-	-	-	-	-	2	2	1	1	3	3
C408.3	3	2	1	1	-	-	-	-	-	3	1	2	1	2	2
C408	3	2	1	1	-	-	-	-	-	3	2	2	1	2	2



Dr. G. Balakrishnan, M.E., Ph.D.,
 Principal
 Indra Ganesan College of Engineering
 IG Valley, Madurai Main Road
 Manikandam, Trichy-620 012.

SEMESTER VIII

IT6801 SERVICE ORIENTED ARCHITECTURE

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C401.1	Program Parallel Processors.	1,2,3,4,5,9,10,11,12	1,3
C401.2	. Develop programs using OpenMP and MPI.	1,2,3,4,5,9,10,11,12	1,3
C401.3	Compare and contrast programming for serial processors and programming for parallel processors.	1,2,3,4,5,9,10,11,12	1,3

Mapping of COs, C, PSOs with POs

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C401.1	3	2	1	1	1	-	-	-	3	1	2	1	1	-	3
C401.2	3	2	1	1	1	-	-	-	1	2	2	1	1	-	3
C401.3	3	2	1	1	1	-	-	-	2	3	1	2	1	-	2
C401	3	2	1	1	1	-	-	-	2	3	2	2	1	-	2

CS6503 THEORY OF COMPUTATION

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C402.1	Design Finite State Machine, Pushdown Automata, and Turing Machine.	1,2, 12	1
C402.2	☑ Explain the Decidability or Undecidability of various problems	1.2.12	1

Mapping of COs, C, PSOs with POs

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C402.1	3	2	-	-	-	-	-	-	-	-	2	1	1	-	-
C402.2	3	2	-	-	-	-	-	-	-	-	2	1	1	-	-
C402	3	2	-	-	-	-	-	-	-	-	2	2	1	-	-


Dr. G. Balakrishnan, M.E., Ph.D.,

Principal

Indra Ganesan College of Engineering

IG Valley, Madurai Main Road

Manikandam, Trichy-620 012.

CS6702 GRAPH THEORY AND APPLICATIONS

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C403.1	Write precise and accurate mathematical definitions of objects in graph theory.	1,2,3,4,9,10,11,12	1,2,3
C403.2	Use mathematical definitions to identify and construct examples and to distinguish examples from non examples	1,2,3,4,5,9,10,11,12	1,2,3
C403.3	Validate and critically assess a mathematical proof	1,2,3,4,5,9,10,11,12	1,2,3
C403.4	Use a combination of theoretical knowledge and independent mathematical thinking in creative	1,2,3,4,9,10,11,12	1,2,3
C403.5	investigation of questions in graph theory. Reason from definitions to construct mathematical proofs	1,2,3,4,5,9,10,11,12	1,2,3

Mapping of COs, C, PSOs with POs

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C403.1	3	2	1	1	-	-	-	-	3	1	2	1	1	3	3
C403.2	3	2	1	1	1	-	-	-	1	2	2	1	1	3	3
C403.3	3	2	1	1	1	-	-	-	2	3	1	2	1	2	2
C403.4	3	2	1	1	-	-	-	-	1	2	1	2	1	2	2
C403.5	3	2	1	1	1	-	-	-	1	3	1	1	1	1	1
C403	3	2	1	1	1	-	-	-	2	3	2	2	1	2	2

CS6008 HUMAN COMPUTER INTERACTION

After the course, the student should be able to:

CO	Course Outcomes	POs	PSOs
C404.1	Solve optimization problems using simplex method	1,2,3,4,10,11,12	1,2
C404.2	Apply integer programming and linear programming to solve real-life applications.	1,2,3,4,10,11,12	1,2
C404.3	Use PERT and CPM for problems in project management	1,2,3,4,10,11,12	1,2

Mapping of COs, C, PSOs with POs

Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
C404.1	3	2	1	1	-	-	-	-	-	1	2	1	1	3	3
C404.2	3	2	1	1	-	-	-	-	-	2	2	1	1	3	3
C404.3	3	2	1	1	-	-	-	-	-	3	1	2	1	2	2
C404	3	2	1	1	-	-	-	-	-	3	2	2	1	2	2


Dr. G. Balakrishnan, M.E., P...

Principal

Indra Ganesan College of Engineering
IG Valley, Madurai Main Road
Manikandam, Trichy-620 012.

