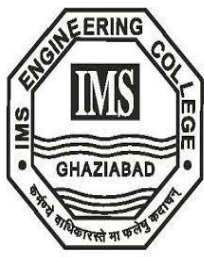




IMS Engineering College, Ghaziabad

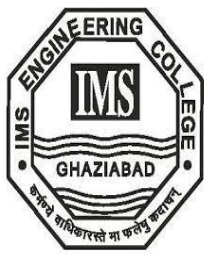
Department of Information Technology

2020-21



IMS Engineering College, Ghaziabad

Course Outcomes (CO)
mapping with
Programme Outcomes (PO)
and
Programme Specific
Outcomes (PSO)



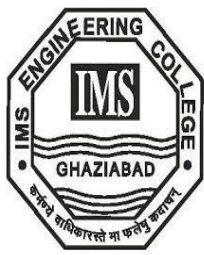
Institute Vision and Mission

Vision

Our vision is to impart Vibrant, Innovative and Global Education to make IMS the world leader in terms of Excellence of Education, Research and to serve the nation in the 21st century.

Mission

- To develop IMSEC as a Centre of Excellence in Technical and Management Education.
- To inculcate in its students the qualities of Leadership, Professionalism, Executive Competence and Corporate understanding.
- To imbibe and enhance Human Values, Ethics and Morals in our students.
- To transform students into Globally Competitive Professionals



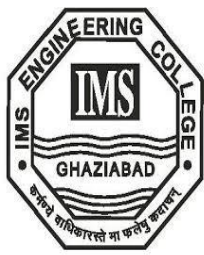
Department Vision and Mission

Vision :

To impart futuristic technical education and establish a department of excellence by preparing students to apply their knowledge and varied skills as a competent technocrat to contribute towards solving complex societal problems and thus building a peaceful and prosperous nation.

Mission:

- To impart quality engineering education so that they become perfect IT professional by getting high quality of technical education, research, training, professionalism with strong ethical values.
- To educate students in such a way that they shape up their minds to ensure their productive careers in industry and academia.
- To help students to excel in research and innovation that discovers new knowledge which enables new technologies and systems.
- To prepare students to become an industry ready IT professional by inculcating creativity, team spirit, leadership and ethical competency through industry academia collaboration, continuous curricular, co-curricular and extra-curricular activities.



Program Outcomes

Engineering Graduates will be able to:

1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.



IMS Engineering College, Ghaziabad

Program Educational Objectives

- PEO 1:** Graduates of the program will be able to apply fundamental principles of engineering in problem solving and understanding the role of computing in multiple disciplines.
- PEO 2:** Graduates will learn to apply the various computational techniques and tools for developing solutions & projects in the real world.
- PEO 3:** Graduates will be employed as Information Technology professional beyond entry level positions or be making satisfactory progress in graduate program.
- PEO 4:** Graduates will be able to demonstrate that they can function, communicate, collaborate and continue to learn effectively, and ethically as a socially responsible information technology professional. They will contribute to the society by their professional capabilities through lifelong learning.

Program Specific Outcomes (PSO)

- PSO1: Foundation of computer system:** Ability to understand the principles and working of computer systems.
- PSO2: Foundations of software development:** possess professional skills and knowledge of software design process. Familiarity and practical competence with a broad range of programming language and open source platforms.
- PSO3: Foundation of mathematical concepts:** Ability to apply mathematical methodologies to solve computation task, model real world problem, using appropriate data structure and suitable algorithm.
- PSO4: Applications of computing and research ability:** Ability to use knowledge in various domains to identify research gaps and hence to provide solution to new ideas and innovations.



IMS Engineering College, Ghaziabad

FIFTH SEMESTER

Sl. No.	Subject	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit
	Codes		L	T	P	CT	TA	Total	PS	TE	PE		
1	KCS501	Database Management System	3	1	0	30	20	50		100		150	4
2	KIT501	Web Technology	3	1	0	30	20	50		100		150	4
3	KCS503	Design and Analysis of Algorithm	3	1	0	30	20	50		100		150	4
4	Deptt-Elective-I	Departmental Elective-I	3	0	0	30	20	50		100		150	3
5	Deptt.-Elective-II	Departmental Elective-II	3	0	0	30	20	50		100		150	3
6	KCS551	Database Management System Lab	0	0	2				25		25	50	1
7	KIT551	Web Technology Lab	0	0	2				25		25	50	1
8	KCS553	Design and Analysis of Algorithm Lab	0	0	2				25		25	50	1
9	KCS554	Mini Project or Internship Assessment*	0	0	2				50			50	1
10	KNC501/ KNC502	Constitution of India, Law and Engineering / Indian Tradition, Culture and Society	2	0	0	15	10	25		50			



IMS Engineering College, Ghaziabad

SIXTH SEMESTER

Sl. No.	Subject Codes	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit
			L	T	P	CT	TA	Total	PS	TE	PE		
1	KCS601	Software Engineering	3	1	0	30	20	50		100		150	4
2	KIT601	Data Analytics	3	1	0	30	20	50		100		150	4
3	KCS603	Computer Networks	3	1	0	30	20	50		100		150	4
4	Deptt- Elective-III	Departmental Elective-III	3	0	0	30	20	50		100		150	3
5		Open Elective-I	3	0	0	30	20	50		100		150	3
6	KCS651	Software Engineering Lab	0	0	2				25		25	50	1
7	KIT651	Data Analytics Lab	0	0	2				25		25	50	1
8	KCS653	Computer Networks Lab	0	0	2				25		25	50	1
9	KNC601/ KNC602	Constitution of India, Law and Engineering / Indian Tradition, Culture and Society	2	0	0	15	10	25		50			



IMS Engineering College, Ghaziabad

Sub Code	KCS-501
Sub. Name	Database Management System

COURSE OUTCOMES		Bloom's Level
CO1	Student should be able to understand the fundamentals of basics of DBMS.	K2
CO2	Student should be able able to generate data modeling using entity relationship model.	K3
CO3	Student should be able to Analyze DBMS constraints, SQL & relational data model and distinguish between TRC and DRC.	K4
CO4	Student should be able to understand the concept of database design & compute normal form.	K2
CO5	Student should be able to describe the concept of transaction processing and discuss the distributed database.	K1
CO6	Student should be able to explain the concurrency control techniques and demonstrate ORACLE.	K6

CO-PO Matrix												
Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	1	1	1	1		1				1
CO2	3	3	3	3	2	1	1	1	1	1	1	2
CO3	3	3	3	3	2	2		1	1	1	1	3
CO4	3	3	3	3	2	2	1	1	1	1	1	3
CO5	3	3	2	2	1	2	1	1				2
CO6	3	2	2	2	1	1		1				1
	2.8333333	2.66667	2.33333	2.33333	1.5	1.5	1	1	1	1	1	2

CO-PSO Matrix				
COs	PSO1	PSO2	PSO3	PSO4
CO1	2	2		1
CO2	3	3	1	2
CO3	3	3	1	3
CO4	3	3	1	3
CO5	3	2		2
CO6	3	2		2
	2.83333	2.5	1	2.16667



IMS Engineering College, Ghaziabad

Sub Code	KIT-501
Sub. Name	Web Technology

COURSE OUTCOMES		Bloom's Level
CO1	Apply the knowledge of the internet and related internet concepts that are vital in understanding web application development and analyze the insights of internet programming to implement complete application over the web.	K3, K6
CO2	Understand, analyze and apply the role of mark up languages like HTML, DHTML, and XML in the workings of the web and web applications.	K2, K3
CO3	Use web application development software tools i.e. XML, Apache Tomcat etc. and identifies the environments currently available on the market to design web sites.	K3, K6
CO4	Understand, analyze and build dynamic web pages using client side programming JavaScript and also develop the web application using servlet and JSP.	K2, K4, K6
CO5	Understand the impact of web designing by database connectivity with JDBC in the current market place where everyone use to prefer electronic medium for shopping, commerce, fund transfer and even social life also.	K2, K3, K4

CO-PO Matrix												
Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	1	1			2			2	3
CO2	2	3	3	1	1						2	2
CO3	2	3	1	1	1						2	2
CO4	2	3	1	1	1						2	2
CO5	3	2	2	1	1						2	3
Avg	2.40	2.80	2.00	1.00	1.00			2.00			2.00	2.40

CO-PSO Matrix				
COs	PSO1	PSO2	PSO3	PSO4
CO1	2	2	3	3
CO2	2	2	3	3
CO3	2	2	3	3
CO4	2	2	3	3
CO5	2	2	2	3
Avg	2.00	2.00	2.80	3.00



IMS Engineering College, Ghaziabad

Sub Code	KCS-503
Sub. Name	Design and Analysis of Algorithm

COURSE OUTCOMES		Bloom's Level
CO1	Student will be able to analyse performance of an algorithm and estimate their complexity.	K4
CO2	Students will be able to derive and solve recurrences and also analyze sorting algorithms.	K3
CO3	Students will become familiar with advanced Data Structures like Binomial Heaps, Fibonacci Heaps, B- Tress, red black trees, tries, skip list etc.	K2
CO4	Students will learn and able to apply divide-and-conquer paradigm, greedy algorithms.	K3
CO5	Students will learn and able to apply algorithms like dynamic programming, Backtracking, Branch and Bound problems.	K1, K3
CO6	Students will understand the concept of NP completeness, approximation algorithms, and algebraic Computation.	K2

CO-PO Matrix												
Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	2	2								2
CO2	3	3	2	2								3
CO3	2	2	2	2								2
CO4	2	2	2	1	1							2
CO5	2	2	2	1	1							2
CO6	3	3	2	2	1						1	2
Avg	2.50	2.50	2.00	1.67	1.00						1.00	2.17

CO-PSO Matrix				
COs	PSO1	PSO2	PSO3	PSO4
CO1	3	2	1	1
CO2	3	2	1	1
CO3	3	2	1	1
CO4	2	2	1	1
CO5	2	2	1	1
CO6	2	2	1	1
Avg	2.50	2.00	1.00	1.00



IMS Engineering College, Ghaziabad

Sub. Code	KCS 551
Sub. Name	DBMS Lab

6

COURSE OUTCOMES		Bloom's Level
CO1	Student should be able to state installation of Oracle	K1
CO2	Student should be to design Entity- Relationship Diagram using various case tools	K6
CO3	Student should be able to generate SQL statements using ORACLE/ MYSQL	K6
CO4	Student should be able to solve normalization in oracle	K3
CO5	Student should be able to create and demonstrate cursor, procedure, functions, packages and triggers	K3, K6

CO-PO Matrix												
Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1						1				1
CO2	3	3	2	2	2	2	1	1	1	1	1	3
CO3	3	3	3	3	2		1				1	3
CO4	2	3	2	2	2		1	1	1		2	3
CO5	3	3	3	3	2		1		1		2	3
Avg	2.60	2.60	2.50	2.50	2.00	2.00	1.00	1.00	1.00	1.00	1.50	2.60

CO-PSO Matrix				
COs	PSO1	PSO2	PSO3	PSO4
CO1	1			1
CO2	3	3	1	3
CO3	2	3	1	3
CO4	3	3	1	3
CO5	3	3	1	3
Avg	2.40	3.00	1.00	2.60



IMS Engineering College, Ghaziabad

Sub. Code	KCS-553
Sub. Name	DAA Lab

COURSE OUTCOMES		Bloom's Level
CO1	Students will be able to Describe the use of asymptotic notations to analyze the behaviour and performance of algorithms.	K1, K4
CO2	Students will be able to analyze and compare various sorting algorithms like Quick sort, Merge sort, Heap sort etc.	K4, K5
CO3	Students will understand the concept of advanced Data Structures like Binomial Heaps, Fibonacci Heaps, red black trees etc.	K2
CO4	Students will learn to apply different algorithm design techniques like divide and conquer, greedy methods, dynamic programming, Backtracking, and Branch and Bound problems.	K3
CO5	Students will be able to understand Theory of NP Completeness, and basics of nondeterministic algorithms to solve complex Problems.	K2

CO-PO Matrix												
Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	2	2								2
CO2	3	3	2	2								3
CO3	2	2	2	2								2
CO4	2	2	2	1	1							2
CO5	2	2	2	1	1							2
Avg	2.40	2.40	2.00	1.60	1.00							2.20

CO-PSO Matrix				
COs	PSO1	PSO2	PSO3	PSO4
CO1	2	2	3	2
CO2	2	2	3	2
CO3	2	2	2	2
CO4	2	2	2	2
CO5	2	2	2	2
Avg	2.00	2.00	2.40	2.00



IMS Engineering College, Ghaziabad

Sub Code	KIT-551
Sub. Name	Web Technology Lab

COURSE OUTCOMES		Bloom's Level
CO1	Understand fundamentals of web development and Java, including defining classes, invoking methods, using class libraries, Applet, AWT.	K2
CO2	Understand, analyze and apply the role of scripts/languages like HTML, DHTML, CSS, XML, DOM, and SAX to solve real world problems.	K2, K3, K4
CO3	Understand, analyze and design the role of JavaScript for dynamic web pages.	K2, K4, K6
CO4	Design and deploy different components using EJB, and database tables using JDBC and produce various results based on given query.	K3, K6
CO5	Design and deploy a server-side java application called Servlet & JSP tools to catch form data sent from client, process it and store it on database.	K3, K6

CO-PO Matrix												
Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	1	1					3	2	3	3
CO2	3	2	1	1					3	2	3	3
CO3	3	2	1	1					3	2	3	3
CO4	3	2	1	1			2		3	2	3	3
CO5	3	2	1	1					3	2	3	3
Avg	3.00	2.00	1.00	1.00			2.00		3.00	2.00	3.00	3.00

CO-PSO Matrix				
COs	PSO1	PSO2	PSO3	PSO4
CO1	3	3	1	3
CO2	3	3	1	3
CO3	3	2	1	3
CO4	3	1	1	3
CO5	3	3	1	3
Avg	3.00	2.40	1.00	3.00



IMS Engineering College, Ghaziabad

Sub Code	KIT 052
Sub. Name	COMPILER DESIGN

COURSE OUTCOMES		Bloom's Level
CO1	Describe the functionality of each phase involved in Compilation process	K2
CO2	Design & Implement the parsing techniques including Bottom-up and Top-down parsing for the given programming construct described in Context Free Grammar.	K6
CO3	Identify and apply the different representations of intermediate code.	K3
CO4	Describe the concepts of storage administration for different programming environments. Apply different error recovery routines to recover the errors seen at different phases of compilation.	K6
CO5	Analyze and generate the machine code by considering all the functionalities involved in different phases of the compilation process.	K4, K6

CO-PO Matrix												
Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	1	2									2
CO2	2	2	3	2	2	1						3
CO3	1	2	2	2	1	1						2
CO4	2	2	2	2	2	1					1	3
CO5	2	2	3	2	2	1					1	2
Avg	1.60	1.80	2.40	2.00	1.75	1.00					1.00	2.40

CO-PSO Matrix				
COs	PSO1	PSO2	PSO3	PSO4
CO1	3	1	1	1
CO2	1	3	2	1
CO3	3	2	1	1
CO4	3	2	2	1
CO5	3	2	2	1
Avg	2.60	2.00	1.60	1.00



IMS Engineering College, Ghaziabad

Sub Code	KCS 554
Sub. Name	Mini Project or Internship Assessment

COURSE OUTCOMES		Bloom's Level
CO1	Students will be able to identify and present the objective and the work done during training	K1
CO2	Students will be able to apply the learned concept through design, analysis and development of mini project	K3
CO3	Students will be able to design and implementation of mini project during their training.	K6
CO4	Students will be able to discuss the result/output and prepare a mini project report	K2

CO-PO Matrix												
Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	1	1	1	1	1		1	1		1	1
CO2	2	2	1	1	1	1		1	1	1	1	1
CO3	2	3	3	2	2	1		1	2	2	3	2
CO4	1	2	1	2	1			1	2	1	1	1
Avg	1.50	2.00	1.50	1.50	1.25	1.00		1.00	1.50	1.33	1.50	1.25

CO-PSO Matrix				
COs	PSO1	PSO2	PSO3	PSO4
CO1	1	2	1	
CO2	1	2	1	1
CO3	1	1	1	1
CO4	1	1		1
Avg	1.00	1.50	1.00	1.00



IMS Engineering College, Ghaziabad

Sub Code	KCS-058
Sub. Name	Human Computer Interface

COURSE OUTCOMES		Bloom's Level
CO1	Describe typical human-computer interaction (HCI) models and styles, as well as various historic HCI paradigms.	K1, K2
CO2	Explain the capabilities of both humans and computers from the viewpoint of human information processing.	K2, K4
CO3	Apply an interactive design process and universal design principles to designing HCI systems.	K3
CO4	Describe and use HCI design principles, standards and guidelines.	K2
CO5	Analyze and identify user models, user support, socio-organizational issues, and stakeholder requirements of HCI systems.	K3,K4

CO-PO Matrix												
Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1			1	2		3	2	2	3	3		2
CO2			2		1	3	3	3	1	3		1
CO3		3	3	2	3	1	2	2	2	1	3	2
CO4		2	2	2		2	2	1	2	2	1	3
CO5		1	2		2	3		3	3	3	2	2
Avg		1.2	2.0	1.2	1.2	2.4	1.8	2.2	2.2	2.4	1.2	2

CO-PSO Matrix				
COs	PSO1	PSO2	PSO3	PSO4
CO1	3	2	1	3
CO2	2	3	3	2
CO3	1	2	2	3
CO4	2	3	1	2
CO5	3	2	3	3
Avg	2.2	2.4	2	2.6



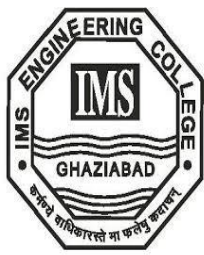
IMS Engineering College, Ghaziabad

Sub Code	KNC501
Sub. Name	CONSTITUTION OF INDIA, LAW AND ENGINEERING

COURSE OUTCOMES		Bloom's Level
CO1	Identify and explore the basic features and modalities about Indian constitution	K1, K4
CO2	Differentiate and relate the functioning of Indian parliamentary system at the center and state level.	K4
CO3	Differentiate different aspects of Indian Legal System and its related bodies.	K4
CO4	Discover and apply different laws and regulations related to engineering practices.	K3
CO5	Correlate role of engineers with different organizations and governance models	K4

CO-PO Matrix												
Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1												
CO2												
CO3												
CO4							2	2	2	2		
CO5							2	2	2	2		
Avg							0.8	0.8	0.8	0.8		

CO-PSO Matrix				
COs	PSO1	PSO2	PSO3	PSO4
CO1				
CO2				
CO3				
CO4				
CO5				
Avg				



IMS Engineering College, Ghaziabad

EVEN Semester

Sub Code	KCS-601
Sub. Name	Software Engineering

COURSE OUTCOMES		Bloom's Level
CO1	Explain various software characteristics and analyze different software Development Models.	K1, K2
CO2	Demonstrate the contents of a SRS and apply basic software quality assurance practices to ensure that design, development meet or exceed applicable standards.	K1, K2
CO3	Compare and contrast various methods for software design.	K2, K3
CO4	Formulate testing strategy for software systems, employ techniques such as unit testing, Test driven development and functional testing.	K3
CO5	Manage software development process independently as well as in teams and make use of Various software management tools for development, maintenance and analysis.	K5

CO-PO Matrix												
Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	2	1	2	1	-	-	-	-	1	2
CO2	2	2	2	2	1	2	-	-	-	-	1	2
CO3	2	2	3	2	2	1	-	-	-	-	2	2
CO4	2	2	2	2	2	2	-	-	-	-	2	2
CO5	2	3	3	1	1	1	-	-	-	-	2	2
Avg	2.00	2.20	2.40	1.60	1.60	1.40					1.60	2.00

Average: 1.85

CO-PSO Matrix				
COs	PSO1	PSO2	PSO3	PSO4
CO1	1	2	1	1
CO2	1	3	2	1
CO3	1	3	2	1
CO4	1	1	3	1
CO5	2	1	2	2



IMS Engineering College, Ghaziabad

Sub Code	KCS-603
Sub. Name	Computer Networks

COURSE OUTCOMES		Bloom's Level
CO1	Students will be able to identify and describe various network models and LAN standards.	K2
CO2	Students will be able to explain and apply data link layer of OSI model	K3, K5
CO3	Students will be able to analyze and design logical addressing and routing algorithms.	K3, K4
CO4	Students will be able to analyze and integrate connection management and presentation layer mechanism.	K4, K6
CO5	Students will be able to practice and analyze various application layer protocols.	K3, K4

CO-PO Matrix												
Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	2	2	2	1	2		1				2
CO2	2	2	2	2	2	1	1	1				2
CO3	3	3	3	3	3	2	2	2				3
CO4	2	2	2	2	2	2	2	2				2
CO5	1	1	1	1	1			1				1
Avg	1.80	2.00	2.00	2.00	1.80	1.75	1.67	1.40				2.00

CO-PSO Matrix				
COs	PSO1	PSO2	PSO3	PSO4
CO1	2	1	2	1
CO2	2	2	2	2
CO3	2	3	3	3
CO4	2	2	3	3
CO5	2	2	1	2
Avg	2.00	2.00	2.20	2.20



IMS Engineering College, Ghaziabad

Sub Code	KCS-653
Sub. Name	Computer Networks Lab

COURSE OUTCOMES		Bloom's Level
CO1	Student will be able to describe and practice to use various networking components and demonstrate different transmission media and design cables for establishing a network.	K1, K3
CO2	Student will be able to perform and diagnose the network configuration using logical addressing.	K4, K5
CO3	Student will be able to develop and manage different types of networks.	K6
CO4	Students will be able to apply and analyze various networks protocols on different layers of OSI or TCP/IP.	K3, K4

CO-PO Matrix												
Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1		2	1	1				1	1	1	2
CO2	2	2	2	2	2	2			2	2	2	2
CO3	2	2	3	3	2	2	2	1	2	1	2	3
CO4		1	1	1		1		1	2	1	2	2
Avg	1.67	1.67	2.00	1.75	1.67	1.67	2.00	1.00	1.75	1.25	1.75	2.25

CO-PSO Matrix				
COs	PSO1	PSO2	PSO3	PSO4
CO1	1		1	2
CO2	1	2	2	2
CO3	1	2	2	2
CO4	1		1	2
Avg	1.00	2.00	1.50	2.00



IMS Engineering College, Ghaziabad

Sub Code	KOE-064
Sub. Name	Object Oriented Programming

COURSE OUTCOMES		Bloom's Level
CO1	Understand the Basic concept of Object Orientation, object identity and Encapsulation.	K2
CO2	Understand the Basic concept of Basic Structural Modeling.	K2
CO3	Know the knowledge of Object oriented design, Object design.	K2
CO4	Know the knowledge of C++ Basics.	K2
CO5	Understand the Basics of object and class in C++.	K2

CO-PO Matrix												
Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	1	1							1	1	1	3
CO2	1	1	1						1	2	2	3
CO3	1	1							2	3	3	3
CO4	1	1	1						1	3	2	3
CO5	1	1	2						2	3	3	3
Avg	1.00	1.00	1.33						1.40	2.40	2.20	3.00

CO-PSO Matrix				
COs	PSO1	PSO2	PSO3	PSO4
CO1		1	1	
CO2	1	3	2	
CO3	2	3	2	1
CO4	3	3	2	1
CO5	3	3	2	1
Avg	2.25	2.60	1.80	1.00



IMS Engineering College, Ghaziabad

Sub Code	KCS-651
Sub. Name	Software Engineering Lab

COURSE OUTCOMES		Bloom's Level
CO1	Identify ambiguities, inconsistencies and incompleteness from a requirements specification and state functional and non-functional requirement.	K2, K4
CO2	Identify different actors and use cases from a given problem statement and draw use case diagram to associate use cases with different types of relationship	K3, K5
CO3	Draw a class diagram after identifying classes and association among them	K4, K5
CO4	Graphically represent various UML diagrams , and associations among them and identify the logical sequence of activities undergoing in a system, and represent them pictorially	K4,K5
CO5	Able to use modern engineering tools for specification, design, implementation and testing	K3,K4

CO-PO Matrix												
Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1						1				1
CO2	3	3	2	2	2	2	1	1	1	1	1	3
CO3	3	3	3	3	2		1				1	3
CO4	2	3	2	2	2		1	1	1		2	3
CO5	3	3	3	3	2		1		1		2	3
Avg	2.6	2.6	2.5	2.5	2	2	1	1	1	1	1.5	2.6

CO-PSO Matrix				
COs	PSO1	PSO2	PSO3	PSO4
CO1	1			1
CO2	3	3	1	3
CO3	2	3	1	3
CO4	3	3	1	3
CO5	3	3	1	3
Avg	2.4	3	1	2.6



IMS Engineering College, Ghaziabad

Sub Code	KNC602
Sub. Name	INDIAN TRADITIONS, CULTURAL AND SOCIETY

COURSE OUTCOMES		Bloom's Knowledge Level
CO1	The course aims at imparting basic principles of thought process, reasoning and inference to identify the roots and details of some of the contemporary issues faced by our nation and try to locate possible solutions to these challenges by digging deep into our past.	K3
CO2	To enable the students to understand the importance of our surroundings and encourage the students to contribute towards sustainable development.	K4
CO3	To sensitize students towards issues related to 'Indian' culture, tradition and its composite character.	K4
CO4	To make students aware of holistic life styles of Yogic-science and wisdom capsules in Sanskrit literature that are important in modern society with rapid technological advancements and societal disruptions.	K3
CO5	To acquaint students with Indian Knowledge System, Indian perspective of modern scientific world-view and basic principles of Yoga and holistic health care system.	K3

CO-PO Matrix												
Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1				3		3		2				2
CO2						3	3	2				
CO3			2			3	3	1	3			
CO4			2			3	3	2	3			1
CO5			2			3	3	2	3			2
Avg			2.00	3.00		3.00	3.00	1.80	3.00			1.67

CO-PSO Matrix				
COs	PSO1	PSO2	PSO3	PSO4
CO1	1		2	
CO2	1			
CO3		1		
CO4	1		2	
CO5		1	2	
Avg	1.00	1.00	2.00	



IMS Engineering College, Ghaziabad

Sub Code	KCS-061
Sub. Name	Big Data

COURSE OUTCOMES		Bloom's Level
CO1	Demonstrate knowledge of Big Data Analytics concepts and its applications in business.	K1, K2
CO2	Demonstrate functions and components of Map Reduce Framework and HDFS.	K1, K2
CO3	Discuss Data Management concepts in NoSQL environment.	K6
CO4	Explain process of developing Map Reduce based distributed processing applications.	K2, K5
CO5	Explain process of developing applications using HBASE, Hive, Pig etc.	K2, K5

CO-PO Matrix												
Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	2	2	3	3	1			2	1	2	3
CO2	2	2	1	2	3				2	1	1	3
CO3	1	1		2	3				2	1	1	3
CO4	1	1	1	3	3	1			2	1	2	3
CO5	2	2	2	3	3	1			2	1	2	3
Avg	1.6	1.6	1.2	2.6	3	0.6			2	1	1.6	3

CO-PSO Matrix				
COs	PSO1	PSO2	PSO3	PSO4
CO1	3	3	2	2
CO2	3	3	2	1
CO3	3	3	2	1
CO4	3	3	2	2
CO5	3	3	2	2
Avg	3	3	2	1.6



IMS Engineering College, Ghaziabad

Sub Code	KIT-651
Sub. Name	Data Analytics Lab

COURSE OUTCOMES		Bloom's Level
CO1	Implement numerical and statistical analysis on various data sources	K3
CO2	Apply data pre-processing and dimensionality reduction methods on raw data	K3
CO3	Implement linear regression technique on numeric data for prediction	K3
CO4	Execute clustering and association rule mining algorithms on different datasets	K3
CO5	Implement and evaluate the performance of KNN algorithm on different datasets	K3,K4

CO-PO Matrix												
Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	3	3	3							2
CO2	3	3	3	3	3							2
CO3	3	3	3	3	3							2
CO4	3	3	3	3	3							2
CO5	3	3	3	3	3							2
Avg	3	3	3	3	3							2

CO-PSO Matrix				
COs	PSO1	PSO2	PSO3	PSO4
CO1	2	3	3	3
CO2	2	3	3	3
CO3	2	3	3	3
CO4	2	3	3	3
CO5	2	3	3	3
Avg	2	3	3	3



IMS Engineering College, Ghaziabad

Sub Code	KIT-601
Sub. Name	Data Analytics

COURSE OUTCOMES		Bloom's Level
CO1	Discuss various concepts of data analytics pipeline	K1, K2
CO2	Apply classification and regression techniques	K3
CO3	Explain and apply mining techniques on streaming data	K2, K3
CO4	Compare different clustering and frequent pattern mining algorithms	K4
CO5	Describe the concept of R programming and implement analytics on Big data using R	K2, K3

CO-PO Matrix												
Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	2	1				1	1	1	2	2	2	3
CO2	3	3	3	3	3							2
CO3	3	3	3	3	3							2
CO4	3	3	3	3	3							2
CO5	3	3	3	3	3							2
Avg	2.8	2.6	3	3	3	1	1	1	2	2	2	2.2

CO-PSO Matrix				
COs	PSO1	PSO2	PSO3	PSO4
CO1	2	1	3	3
CO2	3	3	2	2
CO3	3	3	2	2
CO4	3	3	2	2
CO5	3	3	3	3
Avg	2.8	2.6	2.4	2.4



IMS Engineering College, Ghaziabad

Sub Code	KCS062
Sub. Name	Image Processing

COURSE OUTCOMES		Bloom's Level
CO1	Explain the basic concepts of two-dimensional signal acquisition, sampling, quantization and color model.	K1, K2
CO2	Apply image processing techniques for image enhancement in both the spatial and frequency domains.	K2, K3
CO3	Apply and compare image restoration techniques in both spatial and frequency domain.	K2, K3
CO4	Compare edge based and region based segmentation algorithms for ROI extraction.	K3, K4
CO5	Explain compression techniques and descriptors for image processing.	K2, K3

CO-PO Matrix												
Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	1									2
CO2	2	2	2	1								1
CO3	2	3	3	2								2
CO4	3	3	2	2	2	1			1		1	1
CO5	2	3	3	2	2	1		1	1		1	2
Avg	2.40	2.60	2.20	1.75	2.00	1.00		1.00	1.00		1.00	1.60

CO-PSO Matrix				
COs	PSO1	PSO2	PSO3	PSO4
CO1	1		1	1
CO2	1			
CO3	1	1	1	
CO4	1			
CO5	1	2	1	1
Avg	1.00	1.50	1.00	1.00