



AALIM MUHAMMED SALEGH COLLEGE OF ENGINEERING
AVADI - IAF, CHENNAI-55
DEPARTMENT OF INFORMATION TECHNOLOGY



Programme Educational Objectives (PEO's)

PEO1	To ensure graduates will be proficient in utilizing the fundamental knowledge of basic sciences, mathematics and Information Technology for the applications relevant to various streams of Engineering and Technology.
PEO2	To enrich graduates with the core competencies necessary for applying knowledge of computers and telecommunications equipment to store, retrieve, transmit, manipulate and analyze data in the context of business enterprise.
PEO3	To enable the graduates to improve logical thinking, pursue lifelong learning and understand technical issues related to computing systems and optimal design solutions.
PEO4	To enable the graduates in gaining employment in industry and stabilize themselves as competent professionals in applying their technical skills in real time problems and meet the diversified needs of industry, academia and research.

1. **Programme Outcomes(POs) and Programme Specific Outcomes (PSOs) for the Institute**

Programme Outcomes (Pos) Engineering Graduates will be able to:

PO1	Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	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.
PO3	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.
PO4	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.
PO5	Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
PO6	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.
PO7	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.

PO8	Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	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.
PO11	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.
PO12	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.

2. Programme Specific Outcomes (PSOs) for Information Technology

PSO1	To create, select, and apply appropriate techniques, resources, modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
PSO2	To manage complex IT projects with consideration of the human, financial, ethical and environmental factors and an understanding of risk management processes, and operational and policy implications.

3. Attainment of course outcome for Information Technology

The evaluation of a course outcome is based on students' performance in internal assessments, assignments, seminars, the university examination, and the course exit survey. For direct assessment, internal assessments, assignments, and student seminars collectively contribute 60% to the overall attainment of a course outcome, while the university examination contributes 40%.

Overall Direct Assessment evaluated as follows :

- Weightage to Internal assessment, assignment, Seminar and University Examinations: 80%

Indirect Assessment evaluated as follows

- Weightage applied to Course Exit Survey: 20%.

Theory courses:

The attainment of course outcomes by students is evaluated for each theory course through two internal assessment tests, model examination conducted by the department and an end-semester examination conducted by the affiliated university. These assessments are designed to shift students from “what they learn” to “how to deliver.” They are direct methods used to determine a

student's understanding of the subject, acquisition and application of knowledge, and problem-solving abilities. Additionally, assignments and seminars serve as direct assessment methods, fostering deeper thinking and greater engagement with the course material. Well-crafted writing assignments, in particular, encourage students to reflect more profoundly on their learning.

Lab courses:

The attainment of course outcomes by students in lab courses is assessed through various methods: evaluating performance on individual experiments, a model practical exam conducted by the department, and the end-semester examination conducted by the affiliating university. These assessments, which include oral examinations (viva voce), determine the students' understanding of the subject, knowledge acquisition, ability to apply that knowledge, and problem-solving capabilities.

Project:

The attainment of course outcomes by students on projects is assessed through three departmental reviews, a final project demonstration given by the student, and an end-semester examination conducted by the affiliated university. In addition to the main project in the program's final semester, students undertake mini projects in the sixth semester, supervised by faculty. During these projects, students apply their knowledge from related courses to create hardware and software solutions, presenting a demonstrable product to a panel of supervisors.

Alongside these direct assessments, indirect assessments are also employed. These include course exit surveys to evaluate course and program outcomes, and student feedback forms to enhance the learning experience by reviewing content and course delivery. Feedback on the Technical Seminar for students involves gathering knowledge on a topic and presenting it in a comprehensive technical report and oral lecture.

4. Attainment of Course Outcomes of all courses with respect to set attainment levels

Measuring Course Outcomes attained through Internal Assessments and University Examinations for Theory Evaluation:

The Department has set Attainment level for the Course Outcomes of all courses in the internal assessments and university examination are defined for 2020-2024 batch as:

Academic Year	Attainment Level 1	Attainment Level 2	Attainment Level 3
2020-2024	Student scores between $\geq 50\%$ and $< 55\%$	Student scores between $> 55\%$ and $< 60\%$	Student scores $\geq 60\%$

Measuring Course Outcomes attained through Internal Assessments and University Examinations for Laboratory and Project Evaluation:

The Department has set Attainment level for the Course Outcomes of all courses in the internal assessments and university examination are defined for 2020-2024 batch as:

Academic Year	Attainment Level 1	Attainment Level 2	Attainment Level 3
2020-2024	Student scores between $\geq 50\%$ and $\leq 59\%$	Student scores between $\geq 60\%$ and $\leq 69\%$	Student scores $\geq 70\%$

5. Assessment tools and process used for measuring the attainment of each of the program outcomes and program specific outcomes

Overall attainment including direct and indirect survey:

- Weightage to direct assessment : 80%
- Weightage to indirect assessment: 20%

List of Courses for Regulation 2017			
S.No	Course	Subject	Course
SEMESTER I			
1	C101	HS8151	Communicative English
2	C102	MA8151	Engineering Mathematics – I
3	C103	PH8151	Engineering Physics
4	C104	CY8151	Engineering Chemistry
5	C105	GE8151	Problem Solving and Python Programming
6	C106	GE8152	Engineering Graphics
7	C107	GE8161	Problem Solving and Python Programming Laboratory
8	C108	BS8161	Physics and Chemistry Laboratory
SEMESTER II			
9	C109	HS8251	Technical English
10	C110	MA8251	Engineering Mathematics - II
11	C111	PH8252	Physics for Information Science
12	C112	BE8255	Basic Electrical, Electronics and Measurement Engineering
13	C113	IT8201	Information Technology Essentials
14	C114	CS8251	Programming in C
15	C115	GE8261	Engineering Practices Laboratory
16	C116	CS8261	C Programming Laboratory
17	C117	IT8211	Information Technology Essentials Laboratory
SEMESTER III			
18	C201	MA8351	Discrete Mathematics
19	C202	CS8351	Digital Principles and System Design
20	C203	CS8391	Data Structures
21	C204	CS8392	Object Oriented Programming
22	C205	EC8394	Analog and Digital Communication
23	C206	CS8381	Data Structures Laboratory
24	C207	CS8383	Object Oriented Programming Laboratory
25	C208	CS8382	Digital Systems Laboratory

26	C209	HS8381	Interpersonal Skills/Listening & Speaking
SEMESTER IV			
27	C210	MA8391	Probability and Statistics
28	C211	CS8491	Computer Architecture
29	C212	CS8492	Database Management Systems
30	C213	CS8451	Design and Analysis of Algorithms
31	C214	CS8493	Operating Systems
32	C215	GE8291	Environmental Science and Engineering
33	C216	CS8481	Database Management Systems Laboratory
34	C217	CS8461	Operating Systems Laboratory
35	C218	HS8461	Advanced Reading and Writing
SEMESTER V			
36	C301	MA8551	Algebra and Number Theory
37	C302	CS8591	Computer Networks
38	C303	EC8691	Microprocessors and Microcontrollers
39	C304	IT8501	Web Technology
40	C305	CS8494	Software Engineering
41	C306	OMD551	Open Elective I Basic of Biomedical Instrumentation
42	C307	EC8681	Microprocessors and Microcontrollers Laboratory
43	C308	CS8581	Networks Laboratory
44	C309	IT8511	Web Technology Laboratory
SEMESTER VI			
45	C310	IT8601	Computational Intelligence
46	C311	CS8592	Object Oriented Analysis and Design
47	C312	IT8602	Mobile Communication
48	C313	CS8091	Big Data Analytics
49	C314	CS8092	Computer Graphics and Multimedia
50	C315	IT8076	Professional Elective I :Software Testing
51	C316	CS8662	Mobile Application Development Laboratory
52	C317	CS8582	Object Oriented Analysis and Design Laboratory
53	C318	IT8611	Mini Project
54	C319	HS8581	Professional Communication
SEMESTER VII			
55	C401	MG8591	Principles of Management
56	C402	CS8792	Cryptography and Network Security
57	C403	CS8791	Cloud Computing
58	C404	OME752	Open Elective II : Supply Chain Management
59	C405	IT8075	Professional Elective II : Software Project Management
60	C406	HX8001	Professional Readiness for Industry Employability Enhancement
61	C407	IT8711	FOSS and Cloud Computing Laboratory
62	C408	IT8761	Security Laboratory
SEMESTER VIII			

63	C409	GE8076	Professional Elective IV: Professional Ethics in Engineering
64	C410	CS8080	Professional Elective V : Information Retrieval Techniques
65	C411	IT8811	Project Work

6. CO PO MAPPING EACH COURSE FOR REGULATION 2017

CO	Program Outcomes	Program Specific Outcomes
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C101 / HS8151 - COMMUNICATIVE ENGLISH

C101	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO0	PSO1	PSO2	PSO1	PSO2
C101.1	0	0	0	0	0	0	0	0	3	3	2	2	2	2
C101.2	0	0	0	0	0	0	0	0	3	3	2	2	2	2
C101.3	0	0	0	0	0	0	0	0	3	3	2	2	2	2
C101.4	0	0	0	0	0	0	0	0	3	3	2	2	2	2
C101.5	0	0	0	0	0	0	0	0	3	3	2	2	2	2
AVG	0	0	0	0	0	0	0	0	3	3	2	2	2	2

C102 / MA 8151- ENGINEERING MATHEMATICS-I

C102	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO0	PSO1	PSO2	PSO1	PSO2
C102.1	3	3	3	3	-	-	-	-	2	-	-	2	2	2
C102.2	3	3	3	3	-	-	-	-	2	-	-	2	2	2
C102.3	3	3	3	3	-	-	-	-	2	-	-	2	2	2
C102.4	3	3	3	3	-	-	-	-	2	-	-	2	2	2
C102.5	3	3	3	3	-	-	-	-	2	-	-	2	2	2
AVG	3	3	3	3	0	0	0	0	2	0	0	2	2	2

C103 / PH 8151- ENGINEERING PHYSICS

C103	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO0	PSO1	PSO2	PSO1	PSO2
C103.1	3	3	3	-	-	-	2	-	-	-	-	1	2	2
C103.2	3	3	3	-	-	-	2	-	-	-	-	1	2	2
C103.3	3	3	3	-	-	-	2	-	-	-	-	1	2	2
C103.4	3	3	3	-	-	-	2	-	-	-	-	1	2	2
C103.5	3	3	3	-	-	-	2	-	-	-	-	1	2	2
AVG	3	3	3	0	0	0	2	0	0	0	0	1	2	2

C104 / CY8151 - ENGINEERING CHEMISTRY

C104	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO0	PSO1	PSO2	PSO1	PSO2
C104.1	3	2	2	-	-	-	3	-	-	-	-	-	-	1

C11 2.4	3	2	-	-	-	-	-	-	-	-	-	-	-	1	-
C11 2.5	3	2	-	-	-	-	-	-	-	-	-	-	-	1	-
AV G	3	2	0	0	0	0	0	0	0	0	0	0	0	1	0

C113 / IT8201-INFORMATION TECHNOLOGY ESSENTIALS

C11 3	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO1 1	PO1 2	PSO 1	PSO 2
C11 3.1	3	3	3	-	3	-	-	-	-	2	1	2	2	1
C11 3.2	3	3	3	-	3	-	-	-	-	2	1	2	2	1
C11 3.3	3	3	3	-	3	-	-	-	-	2	1	2	2	1
C11 3.4	3	3	3	-	3	-	-	-	-	2	1	2	2	1
C11 3.5	3	3	3	-	3	-	-	-	-	2	1	2	2	1
AV G	3	3	3	0	3	0	0	0	0	2	1	2	2	1

C114 / CS 8251- PROGRAMMING IN C

C11 4	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO1 1	PO1 2	PSO 1	PSO 2
C11 4.1	3	3	3	-	3	-	-	-	-	-	-	2	2	-
C11 4.2	3	3	3	-	3	-	-	-	-	-	-	2	2	-
C11 4.3	3	3	3	-	3	-	-	-	-	-	-	2	2	-
C11 4.4	3	3	3	-	3	-	-	-	-	-	-	2	2	-
C11 4.5	3	3	3	-	3	-	-	-	-	-	-	2	2	-
AV G	3	3	3	0	3	0	0	0	0	0	0	2	2	0

C115 / GE8261-ENGINEERING PRACTICES LABORATORY

C11 5	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO1 1	PO1 2	PSO 1	PSO 2
C11 5.1	3	3	-	-	-	3	-	-	-	-	-	1	2	-
C11 5.2	3	3	-	-	-	3	-	-	-	-	-	1	2	-
C11 5.3	3	3	-	-	-	3	-	-	-	-	-	1	2	-
C11 5.4	3	3	-	-	-	3	-	-	-	-	-	1	2	-
C11 5.5	3	3	-	-	-	3	-	-	-	-	-	1	2	-

AV G	3	3	0	0	0	3	0	0	0	0	0	1	2	0
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C116 / CS8261-C -PROGRAMMING LABORATORY

C11 6	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO1 1	PO1 2	PSO 1	PSO 2
C11 6.1	3	3	3	-	3	-	-	-	-	-	-	2	2	-
C11 6.2	3	3	3	-	3	-	-	-	-	-	-	2	2	-
C11 6.3	3	3	3	-	3	-	-	-	-	-	-	2	2	-
C11 6.4	3	3	3	-	3	-	-	-	-	-	-	2	2	-
C11 6.5	3	3	3	-	3	-	-	-	-	-	-	2	2	-
AV G	3	3	3	0	3	0	0	0	0	0	0	2	2	0

C117 / IT8211- INFORMATION TECHNOLOGY ESSENTIALS LABORATORY

C11 7	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO1 1	PO1 2	PSO 1	PSO 2
C11 7.1	3	3	3	-	3	-	-	-	-	2	2	2	2	1
C11 7.2	3	3	3	-	3	-	-	-	-	2	2	2	2	1
C11 7.3	3	3	3	-	3	-	-	-	-	2	2	2	2	1
C11 7.4	3	3	3	-	3	-	-	-	-	2	2	2	2	1
C11 7.5	3	3	3	-	3	-	-	-	-	2	2	2	2	1
AV G	3	3	3	0	3	0	0	0	0	2	2	2	2	1

C201 / MA8351- Discrete Mathematics

C20 1	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO1 1	PO1 2	PSO 1	PSO 2
C20 1.1	3	3	2	-	-	-	-	-	-	-	-	1	3	-
C20 1.2	3	3	2	-	-	-	-	-	-	-	-	1	3	-
C20 1.3	3	3	2	-	-	-	-	-	-	-	-	1	3	-
C20 1.4	3	3	2	-	-	-	-	-	-	-	-	1	3	-
C20 1.5	3	3	2	-	-	-	-	-	-	-	-	1	3	-

C214 / CS8493 OPERATING SYSTEMS

C214	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO 8	PO9	PO1 0	PO1 1	PO1 2	PSO1	PSO2
C214. 1	3	1	3	-	-	-	-	-	-	-	-	-	2	-
C214. 2	3	1	3	-	-	-	-	-	-	-	-	-	2	-
C214. 3	3	1	3	-	-	-	-	-	-	-	-	-	2	-
C214. 4	3	1	3	-	-	-	-	-	-	-	-	-	2	-
C214. 5	3	1	3	-	-	-	-	-	-	-	-	-	2	-
AVG	3	1	3	0	0	0	0	0	0	0	0	0	2	0

C215 / GE8291 ENVIRONMENT SCIENCE AND ENGINEERING

C215	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO 8	PO9	PO1 0	PO1 1	PO1 2	PSO1	PSO2
C215. 1	-	-	-	-	-	-	3	-	-	-	-	-	-	2
C215. 2	-	-	-	-	-	-	3	-	-	-	-	-	-	2
C215. 3	-	-	-	-	-	-	3	-	-	-	-	-	-	2
C215. 4	-	-	-	-	-	-	3	-	-	-	-	-	-	2
C215. 5	-	-	-	-	-	-	3	-	-	-	-	-	-	2
AVG	0	0	0	0	0	0	3	0	0	0	0	0	0	2

C216 / CS8481DATABASE MANAGEMENT SYSTEM LABORATORY

C216	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO 8	PO9	PO1 0	PO1 1	PO1 2	PSO1	PSO2
C216. 1	3	2	3	-	2	-	-	-	-	-	-	-	2	-
C216. 2	3	2	3	-	2	-	-	-	-	-	-	-	2	-
C216. 3	3	2	3	-	2	-	-	-	-	-	-	-	2	-
C216. 4	3	2	3	-	2	-	-	-	-	-	-	-	2	-
C216. 5	3	2	3	-	2	-	-	-	-	-	-	-	2	-
AVG	3	2	3	0	2	0	0	0	0	0	0	0	2	0

AVG	3	3	3	3	0	2	0	0	0	0	0	0	2	1
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C314 / Subject Code and Name: CS8092 - Computer Graphics and Multimedia

C314	PO1	PO2	PO3	PO4	PO 5	PO 6	PO 7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C314.1	3	-	3	-	2	-	-	-	-	-	-	-	2	-
C314.2	3	-	3	-	2	-	-	-	-	-	-	-	2	-
C314.3	3	-	3	-	2	-	-	-	-	-	-	-	2	-
C314.4	3	-	3	-	2	-	-	-	-	-	-	-	2	-
C314.5	3	-	3	-	2	-	-	-	-	-	-	-	2	-
AVG	3	0	3	0	2	0	0	0	0	0	0	0	2	0

C315 / IT8076-Software Testing

C315	PO1	PO2	PO3	PO4	PO 5	PO 6	PO 7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C315.1	2	2	-	3	-	-	-	-	-	-	-	-	1	1
C315.2	2	2	-	3	-	-	-	-	-	-	-	-	1	1
C315.3	2	2	-	3	-	-	-	-	-	-	-	-	1	1
C315.4	2	2	-	3	-	-	-	-	-	-	-	-	1	1
C315.5	2	2	-	3	-	-	-	-	-	-	-	-	1	1
AVG	2	2	0	3	0	0	0	0	0	0	0	0	1	1

C316 / CS8662 - Mobile Application Development Laboratory

C316	PO1	PO2	PO3	PO4	PO 5	PO 6	PO 7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C316.1	1	-	2	-	3	-	-	-	-	-	-	-	2	-
C316.2	1	-	2	-	3	-	-	-	-	-	-	-	2	-
C316.3	1	-	2	-	3	-	-	-	-	-	-	-	2	-
C316.4	1	-	2	-	3	-	-	-	-	-	-	-	2	-
C316.5	1	-	2	-	3	-	-	-	-	-	-	-	2	-
AVG	1	0	2	0	3	0	0	0	0	0	0	0	2	0

C317 / CS8582 - Object Oriented Analysis and Design Laboratory

C317	PO1	PO2	PO3	PO4	PO 5	PO 6	PO 7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
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C317.1	3	3	3	2	3	-	-	-	-	-	-	-	2	1
C317.2	3	3	3	2	3	-	-	-	-	-	-	-	2	1
C317.3	3	3	3	2	3	-	-	-	-	-	-	-	2	1
C317.4	3	3	3	2	3	-	-	-	-	-	-	-	2	1
C317.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AVG	3	3	3	2	3	0	0	0	0	0	0	0	2	1

C318 / IT8611 MINI PROJECT

C318	PO1	PO2	PO3	PO4	PO 5	PO 6	PO 7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C318.1	3	3	3	1	3	3	3	-	-	-	-	-	2	2
C318.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C318.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C318.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C318.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AVG	3	3	3	1	3	3	3	0	0	0	0	0	2	2

C319 / HS8581 Professional Communication

C319	PO1	PO2	PO3	PO4	PO 5	PO 6	PO 7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C319.1	-	-	-	-	-	-	-	-	-	3	-	-	1	-
C319.2	-	-	-	-	-	-	-	-	3	-	-	-	1	-
C319.3	-	-	-	-	-	-	-	-	-	-	-	1	-	-
C319.4	-	-	2	-	1	-	-	-	-	-	-	-	1	-
C319.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AVG	0	0	2	0	1	0	0	0	3	3	0	1	1	0

C401 / MG8591 Principles of Management

C404. 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C404. 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C404. 5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AVG	0	0	1	0	0	0	2	0	1	2	3	0	1	2

C405 / IT8075 Software Project Management

C405	PO1	PO2	PO3	PO4	PO 5	PO 6	PO 7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C405. 1	-	-	-	-	-	-	-	1	2	2	3	1	1	1
C405. 2	-	-	-	-	-	-	-	1	2	2	3	1	1	1
C405. 3	-	-	-	-	-	-	-	1	2	2	3	1	1	1
C405. 4	-	-	-	-	-	-	-	1	2	2	3	1	1	1
C405. 5	-	-	-	-	-	-	-	1	2	2	3	1	1	1
AVG	0	0	0	0	0	0	0	1	2	2	3	1	1	1

C406 / IT8711 FOSS and Cloud Computing Laboratory

C407	PO1	PO2	PO3	PO4	PO 5	PO 6	PO 7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
C407. 1	2	3	3	2	3	2	-	-	-	-	-	-	2	1
C407. 2	2	3	3	2	3	2	-	-	-	-	-	-	2	1
C407. 3	2	3	3	2	3	2	-	-	-	-	-	-	2	1
C407. 4	2	3	3	2	3	2	-	-	-	-	-	-	2	1
C407. 5	2	3	3	2	3	2	-	-	-	-	-	-	2	1
AVG	2	3	3	2	3	2	0	0	0	0	0	0	2	1

C407 / IT8761 Security Laboratory

C411.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AVG	3	3	3	3	3	2	2	1	3	3	3	2	2	2

7. CO PO Matrices

S. No	Course	Subject	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
1	C101	HS8151	0	0	0	0	0	0	0	0.00	3	3	2	2
2	C102	MA8151	3	3	3	3	0	0	0	0	2	0	0	2
3	C103	PH8151	3	3	3	0	0	0	2	0	0	0.00	0	1
4	C104	CY8151	3	2	2	0	0	0	3	0	0	0	0	0
5	C105	GE8151	3	2	2	0	3	0	0	0	0	0	0	2
6	C106	GE8152	3	3	0	0	0	2	0	0	0	0	0	2
7	C107	GE8161	3	3	3	0	3	0	0	0	0	0	0	2
8	C108	BS8161	3	3	0	0	0	0	0	0	0	0	0	0
9	C109	HS8251	0	0	0	0	0	0	0	0	3	3	2	2
10	C110	MA8251	3	3	3	0	0	0	0	0	2	0	0	2
11	C111	PH8252	3	3	2	0	0	0	2	0	0	0	0	2
12	C112	BE8255	3	2	0	0	0	0	0	0	0	0	0	0
13	C113	IT8201	3	3	3	0	3	0	0	0	0	2	1	2
14	C114	CS8251	3	3	3	0	3	0	0	0	0	0	0	2
15	C115	GE8261	3	3	0	0	0	3	0	0	0	0	0	1
16	C116	CS8261	3	3	3	0	3	0	0	0	0	0	0	2
17	C117	IT8211	3	3	3	0	3	0	0	0	0	2	2	2
18	C201	MA8351	3	3	2	0	0	0	0	0	0	0	0	1
19	C202	CS8351	3	3	3	0	0	0	0	0	0	0	0	0
20	C203	CS8391	3	3	3	0	0	0	0	0	0	0	0	0
21	C204	CS8392	2	2	3	0	3	0	0	0	0	0	0	0
22	C205	EC8394	3	3	2	0	0	0	0	0	0	0	0	0
23	C206	CS8381	3	3	3	0	2	0	0	0	0	0	0	0
24	C207	CS8383	3	3	3	0	2	0	0	0	0	0	0	0
25	C208	CS8382	3	3	3	0	2	0	0	0	0	0	0	0
26	C209	HS8381	0	0	0	0	0	0	0	0	3	3	1	2.4
27	C210	MA8391	3	3	3	0	0	0	0	0	0	0	0	0
28	C211	CS8491	3	2	3	0	0	0	0	0	0	0	0	0
29	C212	CS8492	3	2	3	0	0	0	0	0	0	0	0	0
30	C213	CS8451	3	3	2	2	0	0	0	0	0	0	0	0
31	C214	CS8493	3	1	3	0	0	0	0	0	0	0	0	0
32	C215	GE8291	0	0	0	0	0	0	3	0	0	0	0	0
33	C216	CS8481	3	2	3	0	2	0	0	0	0	0	0	0
34	C217	CS8461	3	1	3	0	0	0	0	0	0	0	0	0
35	C218	HS8461	0	0	0	0	0	0	0	0	3	3	1	2
36	C301	MA8551	3	3	2	0	0	0	0	0	0	0	0	0
37	C302	CS8591	3	1	2	0	0	0	0	0	0	0	0	0
38	C303	EC8691	3	2	3	0	0	0	0	0	0	0	0	0
39	C304	IT8501	3	1	1	0	3	0	0	0	0	0	0	0
40	C305	CS8494	3	1	2	0	0	0	0	0	0	3	0	0
41	C306	OMD551	3	2	2	2	2	1	0	0	0	0	0	0
42	C307	EC8681	3	2	3	0	2	0	0	0	0	0	0	0

43	C308	CS8581	3	1	1	0	3	0	0	0	0	0	0	0
44	C309	IT8511	3.00	1.00	1.00	0	3.00	0	0	0	0	0	0	0
45	C310	IT8601	3	3	3	3	0	2	0	0.00	0	0	0	0
46	C311	CS8592	3	3	3	3	0	0	0	0	0	0	0	0
47	C312	IT8602	3	2	3	0	0.00	0	0	0	0	0	0	0
48	C313	CS8091	3	3	3	3	0	2	0	0	0	0	0	0
49	C314	CS8092	3	0	3	0	2	0	0	0	0	0	0	0
50	C315	IT8076	2	2	0	3	0	0	0	0	0	0	0	0
51	C316	CS8662	1	0.00	2	0.00	3	0	0	0	0	0	0	0
52	C317	CS8582	3	3.00	3	2.00	3	0	0	0	0	0	0	0
53	C318	IT8611	3	3	3	1	3	3	3	0	0.00	0	0	0
54	C319	HS8581	0	0	2	0	1	0	0	0	3	3	0	1
55	C401	MG8591	0	0	0	0	0	0	0	2	2	3	3	2
56	C402	CS8792	3	3	3	2	0	2	0	0	0	0	0	0
57	C403	CS8791	2	3	3	2	0	2	0	0	0	0	0	0
58	C404	OME752	0	0	1	0	0	0	2	0	1	2	3	0
59	C405	IT8075	0	0	0	0	0	0	0	1	2	2	3	1
61	C406	IT8711	2	3	3	2	3	2	0	0	0	0	0	0
62	C407	IT8761	3	3	3	2	0	3	0	0	0	0	0	0
63	C408	GE8076	0	0	0	0	0	0	0	3	0	0	0	3
64	C409	CS8080	3	3	3	0	0	0	0	0	0	0	0	0
65	C410	IT8811	3	3	3	3	3	2	2	1	3	3	3	2

PSO Mapping matrices

S.No	Course	Subejct	PSO1	PSO2
1	C101	HS8151	2	2
2	C102	MA8151	2	2
3	C103	PH8151	2	2
4	C104	CY8151	0	1
5	C105	GE8151	3	0
6	C106	GE8152	2	0
7	C107	GE8161	3	0
8	C108	BS8161	2	0
9	C109	HS8251	2	1
10	C110	MA8251	2	1
11	C111	PH8252	2	1
12	C112	BE8255	1	0
13	C113	IT8201	2	1
14	C114	CS8251	2	0
15	C115	GE8261	2	0
16	C116	CS8261	2	0
17	C117	IT8211	2	1
18	C201	MA8351	3	0
19	C202	CS8351	2	0
20	C203	CS8391	2	0
21	C204	CS8392	2	0
22	C205	EC8394	2	0
23	C206	CS8381	3	0

24	C207	CS8383	2	0
25	C208	CS8382	3	0
26	C209	HS8381	2	2
27	C210	MA8391	2	0
28	C211	CS8491	2	0
29	C212	CS8492	2	0
30	C213	CS8451	2	0
31	C214	CS8493	2	0
32	C215	GE8291	0	2
33	C216	CS8481	2	0
34	C217	CS8461	2	0
35	C218	HS8461	2	1
36	C301	MA8551	2	0
37	C302	CS8591	2	0
38	C303	EC8691	2	0
39	C304	IT8501	2	0
40	C305	CS8494	2	0
41	C306	OMD551	2	1
42	C307	EC8681	2	0
43	C308	CS8581	2	0
44	C309	IT8511	1.00	2.00
45	C310	IT8601	2	1
46	C311	CS8592	2	1
47	C312	IT8602	2	0
48	C313	CS8091	2	1
49	C314	CS8092	2	0
50	C315	IT8076	1.00	1.00
51	C316	CS8662	2	0
52	C317	CS8582	2.00	1
53	C318	IT8611	2	2
54	C319	HS8581	1	0.00
55	C401	MG8591	1	2
56	C402	CS8792	2	1
57	C403	CS8791	2	1
58	C404	OME752	1	2
59	C405	IT8075	1	1
60	C406	IT8711	2	1
61	C407	IT8761	2	1
62	C408	GE8076	0	1
63	C409	CS8080	2	0
64	C410	IT8811	2	2

8. Consolidated PO attainment

S.No	Course	Subject	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
1	C101	HS8151	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.94	0.94	2.45	0.00	1.32
2	C102	MA8151	2.79	2.04	0.00	2.79	0.00	2.04	0.00	0.00	0.00	0.00	2.04	2.79
3	C103	PH8151	1.14	0.95	1.91	1.91	0.95	0.95	1.53	0.00	1.14	0.95	1.14	1.53

4	C104	CY8151	2.17	1.93	0.00	0.00	0.00	0.96	1.44	0.00	1.93	0.00	0.00	1.93
5	C105	GE8151	2.72	2.53	2.72	0.91	1.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	C106	GE8152	2.91	2.91	1.94	0.97	2.52	1.94	0.00	0.00	0.97	0.00	0.00	2.91
7	C107	GE8161	2.92	2.92	2.92	2.92	2.92	0.97	0.97	0.00	1.95	1.95	2.92	0.00
8	C108	BS8161	1.93	0.97	0.97	0.97	1.93	0.97	1.16	0.00	0.97	0.97	1.45	0.97
9	C109	HS8251	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.96	1.20	2.89	0.00	1.15
10	C110	MA8251	2.72	2.72	0.00	2.53	0.00	0.97	1.62	0.00	0.00	0.00	0.00	2.33
11	C111	PH8252	1.56	1.17	1.95	1.36	0.97	0.97	0.97	0.00	0.97	1.56	0.97	1.95
12	C112	BE8255	1.55	2.33	2.13	2.43	1.70	1.94	0.97	0.00	0.00	0.00	0.97	1.46
13	C113	IT8201	0.97	2.43	1.75	1.55	2.33	0.97	1.55	0.97	2.13	0.97	1.55	1.75
14	C114	CS8251	2.66	2.70	2.42	0.00	1.21	0.00	0.00	0.00	0.00	0.00	0.00	1.74
15	C115	GE8261	2.92	2.92	2.92	2.92	2.14	2.92	1.75	0.97	2.92	2.92	0.97	2.92
16	C116	CS8261	2.67	2.71	2.42	0.00	1.21	0.00	0.00	0.00	0.00	0.00	0.00	1.74
17	C117	IT8211	0.96	2.41	1.74	1.54	2.31	0.96	1.54	0.96	2.12	0.96	1.54	1.74
18	C201	MA8351	2.92	2.92	1.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.97
19	C202	CS8351	2.92	2.92	2.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	C203	CS8391	2.97	2.97	2.97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	C204	CS8392	1.94	1.94	2.92	0.00	2.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	C205	EC8394	2.89	2.89	1.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	C206	CS8381	2.85	2.85	2.85	0.00	1.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	C207	CS8383	2.85	2.85	2.85	0.00	1.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	C208	CS8382	2.88	2.88	2.88	0.00	1.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	C209	HS8381	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.93	2.93	0.98	2.34
27	C210	MA8391	2.43	2.43	2.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	C211	CS8491	2.39	1.59	2.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	C212	CS8492	2.53	1.69	2.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	C213	CS8451	2.67	2.67	1.78	1.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	C214	CS8493	2.57	0.86	2.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	C215	GE8291	0.00	0.00	0.00	0.00	0.00	0.00	2.32	0.00	0.00	0.00	0.00	0.00
33	C216	CS8481	2.93	1.95	2.93	0.00	1.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	C217	CS8461	2.90	0.97	2.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	C218	HS8461	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.90	2.90	0.97	1.93
36	C301	MA8551	2.36	2.36	1.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37	C302	CS8591	2.43	0.81	1.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38	C303	EC8691	2.42	1.62	2.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	C304	IT8501	2.21	0.74	0.74	0.00	2.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00
40	C305	CS8494	2.37	0.79	1.58	0.00	0.00	0.00	0.00	0.00	0.00	2.37	0.00	0.00
41	C306	OMD55 1	2.42	2.42	2.42	2.42	2.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
42	C307	EC8681	2.87	1.91	2.87	0.00	1.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00
43	C308	CS8581	2.91	0.97	0.97	0.00	2.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00
44	C309	IT8511	2.89	0.96	0.96	0.00	2.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00
45	C310	IT8601	2.59	2.59	2.59	2.59	0.00	1.72	0.00	0.00	0.00	0.00	0.00	0.00
46	C311	CS8592	2.79	2.79	2.79	2.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
47	C312	IT8602	2.61	1.74	2.61	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
48	C313	CS8091	2.71	2.71	2.71	2.71	0.00	1.80	0.00	0.00	0.00	0.00	0.00	0.00
49	C314	CS8092	2.53	0.00	2.53	0.00	1.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50	C315	IT8076	0.97	0.00	1.93	0.00	2.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
51	C316	CS8662	2.90	2.90	2.90	1.93	2.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52	C317	CS8582	2.95	2.95	2.95	0.98	2.95	2.95	2.40	0.00	0.00	0.00	0.00	0.00

53	C318	IT8611	0.00	0.00	1.91	0.00	0.96	0.00	0.00	0.00	2.87	2.87	0.00	0.96
54	C319	HS8581	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.65	1.65	2.47	2.47	1.65
55	C401	MG8591	2.47	2.47	2.47	1.65	0.00	1.65	0.00	0.00	0.00	0.00	0.00	0.00
56	C402	CS8792	1.72	2.58	2.58	1.72	0.00	1.72	0.00	0.00	0.00	0.00	0.00	0.00
57	C403	CS8791	0.00	0.00	0.88	0.00	0.00	0.00	1.76	0.00	0.88	1.76	2.63	0.00
58	C404	OME75 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90	1.79	1.79	2.69	0.90
59	C405	IT8075	2.93	2.93	2.93	2.93	2.93	1.95	1.95	0.98	2.93	2.93	2.93	1.95
60	C406	IT8711	1.92	2.88	2.88	1.92	2.88	1.92	0.00	0.00	0.00	0.00	0.00	0.00
61	C407	IT8761	2.89	2.89	2.89	1.93	0.00	2.89	0.00	0.00	0.00	0.00	0.00	0.00
62	C408	GE8076	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.68	0.00	0.00	0.00	2.68
63	C409	CS8080	2.74	2.74	2.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
64	C410	IT8811	2.91	2.91	2.91	2.91	2.91	1.94	1.94	0.97	2.91	2.91	2.91	1.94
			2.48	2.22	2.32	2.04	2.15	1.67	1.59	1.20	1.90	2.14	1.82	1.81

9. Consolidated PSO Attainment

S.No	Course	Subject	PSO1	PSO2
1	C101	HS8151	1.25	1.69
2	C102	MA8151	0.00	0.00
3	C103	PH8151	1.72	0.95
4	C104	CY8151	0.96	0.96
5	C105	GE8151	2.35	0.91
6	C106	GE8152	0.97	0.97
7	C107	GE8161	2.92	2.92
8	C108	BS8161	0.97	1.93
9	C109	HS8251	0.96	0.96
10	C110	MA8251	1.46	1.46
11	C111	PH8252	1.36	0.97
12	C112	BE8255	1.75	1.94
13	C113	IT8201	1.94	1.94
14	C114	CS8251	2.51	0.97
15	C115	GE8261	1.94	1.75
16	C116	CS8261	2.52	0.97
17	C117	IT8211	1.93	2.12
18	C201	MA8351	2.92	0.00
19	C202	CS8351	1.94	0.00
20	C203	CS8391	1.98	0.00
21	C204	CS8392	1.94	0.00
22	C205	EC8394	1.93	0.00
23	C206	CS8381	2.85	0.00
24	C207	CS8383	1.90	0.00
25	C208	CS8382	2.88	0.00
26	C209	HS8381	1.95	1.95
27	C210	MA8391	1.62	0.00
28	C211	CS8491	1.59	0.00
29	C212	CS8492	1.69	0.00
30	C213	CS8451	1.78	0.00
31	C214	CS8493	1.71	0.00

32	C215	GE8291	0.00	1.55
33	C216	CS8481	1.95	0.00
34	C217	CS8461	1.93	0.00
35	C218	HS8461	1.93	0.97
36	C301	MA8551	1.58	0.00
37	C302	CS8591	1.62	0.00
38	C303	EC8691	1.62	0.00
39	C304	IT8501	1.47	0.00
40	C305	CS8494	1.58	0.00
41	C306	OMD551	2.42	2.42
42	C307	EC8681	1.91	0.00
43	C308	CS8581	1.94	0.00
44	C309	IT8511	0.96	1.93
45	C310	IT8601	1.72	0.86
46	C311	CS8592	1.86	0.93
47	C312	IT8602	1.74	0.00
48	C313	CS8091	1.80	0.90
49	C314	CS8092	1.68	0.00
50	C315	IT8076	1.93	0.00
51	C316	CS8662	1.93	0.97
52	C317	CS8582	1.97	1.97
53	C318	IT8611	0.96	0.00
54	C319	HS8581	0.82	1.65
55	C401	MG8591	1.65	0.82
56	C402	CS8792	1.72	0.86
57	C403	CS8791	0.88	0.00
58	C404	OME752	0.90	0.90
59	C405	IT8075	1.95	1.95
60	C406	IT8711	1.92	0.96
61	C407	IT8761	1.93	0.96
62	C408	GE8076	0.00	0.89
63	C409	CS8080	1.83	0.00
64	C410	IT8811	1.94	1.94
			1.77	1.39

10. PO and PSO Final Attainment:

PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO1 0	PO1 1	PO1 2	PS01	PSO 2
2.48	2.22	2.32	2.04	2.15	1.67	1.59	1.20	1.90	2.14	1.82	1.81	1.77	1.39