2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

TABLE OF CONTENT -

Indore Institute of Science and Technology * INDORE *

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

INTRODUCTION

Programme Outcomes POs

POs are statements about the knowledge and skills the graduate/postgraduate of an institution should have. POs deal with the general aspect of Graduation/Post Graduation for a particular programme, and the competencies and expertise a graduate/postgraduate will possess after completion of the program. These are broad and cover a wider area than of COs. Programme Specific Outcomes

Programme Specific Outcomes (PSOs)

PSOs are specifically defined outcomes of the programme which the graduates have to acquire by the end of the programme.

Course Outcome

They are the resultant knowledge skills the student acquires at the end of a course. It defines the cognitive processes a course provides. It is the statement which indicates, that a student can do after the successful completion of a course. Every Course leads to some Course Outcomes. The CO statements are defined by considering the course content covered in each module of a course. For every course, teacher may prepare six or less course outcomes. The keywords used to define COs are based on Bloom's Taxonomy

Method of Attainment of POs. PSOs. and Cos

The attainment of COs is based on continuous internal assessment and semester examinations. Attainment of CO in the course is set at 30 % from continuous internal assessment and 70% from end-semester examinations. Program Outcomes and Program-Specific Outcomes Assessment Process COs are mapped to POs in matrix form. Correlation levels I2. and 3 are defined as low. moderate. and high, respectively blank is used if there is no correlation. The largest level and level of attainment tor any subject will be based on the previous year's attainment and finalized by the concerned subject lately Two methods are adopted for attainment: Direct methods represent the student's knowledge and skills based on their performance in the continuous assessment test, semester examinations, assignments, quizzes. group discussions. And lab practical to assess practical knowledge, Indirect methods include surveys from stakeholders to reflect on students learning in IST, all faculty members from all programs use all direct and indirect assessment tools throughout the semester. All faculty members compute the attainment of course outcomes for their respective courses using direct assessment tools with a weightage to 80 and various survey s with weightage of 20. The HoD of each program collects this information from the subject faculty and computes the attainment of POs.

Indore Institute of Science and Technology INDORE

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

Department of Computer Science and Engineering: Course Outcomes Description

Sem	S. No.	Univ. Subject Code	Subject Name	CO	CO Description
I	1	BT-101	Engineering Chemistry	1.1.1.1	Differentiate hard and soft water; solve the related numerical problems on water purification and its significance in industry and daily life.
				1.1.1.2	Select the lubricant for various purposes based on the type of Machines.
				1.1.1.3	Equipped with basic knowledge of polymer , methods of polymerization and various industrial applications of polymers
				1.1.1.4	Draw the Phase diagrams of one & two component systems and causes, consequences and methods to minimize corrosion to improve industrial designs.
				1.1.1.5	Identify the structure of unknown/new compounds with the help of spectroscopy and understand periodic properties such as ionization potential, oxidation states and electro negativity
	2	BT-102	Mathematics-I	1.1.2.1	To introduce the fallouts of Rolle's Theorem that is fundamental to application of analysis to Engineering problems.
				1.1.2.2	To introduce the idea of applying differential and integral calculus to notions of curvature and to improper integrals. Apart from some applications it gives a basic introduction on Beta and Gamma function
				1.1.2.3	To develop the tool of power series and Fourier series for learning advanced Engineering Mathematics.
				1.1.2.4	To familiarize the student with functions of several variables that is essential in most branches of engineering
				1.1.2.5	To develop the essential tool of matrices and linear algebra in a comprehensive manner.
	3	BT-103	English for Communication	1.1.3.1	Effective use of verbal and non-verbal communication for enhanced soft skill beside enhanced reading comprehension as well
				1.1.3.2	Write the different kinds of letters, reports and technical writing.
				1.1.3.3	Apply basic rules of grammar in both written as well as oral communication.
	4	BT-104	Basic Electrical & Electronics Engineering	1.1.4.1	To introduce the concept of Basics of DC electrical Network including network theorems.
				1.1.4.2	To introduce the concept of Basics of AC electrical Network(single phase & 3 phase)..
				1.1.4.3	To study of law of Electromagnetism, introduction of transformer.
				1.1.4.4	To study of various electrical Machines.
				1.1.4.5	To study Basic Concept Digital Electronics.
	5	BT-105	Engineering Graphics	1.1.5.1	Draw various types of scales, and curves.
				1.1.5.2	Draw orthographic projections of points & lines
				1.1.5.3	Draw orthographic projections of Planes & Solids
				1.1.5.4	Draw sections and development of solids including cylinders, cones, prisms and pyramids.
				1.1.5.5	Draw isometric views of Planes and Solids, Drawing using AUTOCAD.

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

	6	BT-106	Manufacturing Practices	1.1.6.1	Use hand and power tools for different manufacturing processes
				1.1.6.2	Operate machine tools while preparing any component
				1.1.6.3	Select the appropriate tools required for specific operation.
				1.1.6.4	Comprehend the safety measures required to be taken while using the tools.
				1.1.6.5	Prepare Foundry, Fitting, Carpentry, Welding and smithy Job.
	7	BT-107	Internship-I (60 Hrs Duration) at the Institute level	1.1.7.1	Demonstrate the application of knowledge and skill sets acquired from the course and workplace in the assigned job functions.
				1.1.7.2	Solve real life challenges in the workplace by analysing work environment and conditions, and selecting appropriate skill sets acquired from the course.
				1.1.7.3	Exhibit critical thinking and problem solving skills by analysing the challenges.
				1.1.7.4	Demonstrate appreciation and respect for diverse groups of professionals by engaging harmoniously with different company stakeholders.
				1.1.7.5	Exhibit professional ethics by displaying positive disposition during internship.
II	9	BT-201	Engineering Physics	1.2.1.1	The Coursework is designed to provide students the opportunity to learn key concepts of Wave nature of particles and the Schrodinger equation.
				1.2.1.2	Student will able to understand the knowledge of Wave optics i.e. interference and diffraction.
				1.2.1.3	To introduce the idea of solids like semiconductors etc.
				1.2.1.4	To develop the understanding of Lasers, fiber optics and their applications in field of engineering sciences.
				1.2.1.5	To provide you to basic understanding of Electrostatics in vacuum.
	10	BT-202	Mathematics-II	1.2.2.1	To introduce effective mathematical tools for the solutions of ordinary and partial differential equations that model physical processes.
				1.2.2.2	To introduce the tools of differentiation and integration of functions of complex variable those are used in various techniques dealing engineering problems.
				1.2.2.3	To acquaint the student with mathematical tools available in vector calculus needed various field of science and engineering.
	11	BT-203	Basic Mechanical Engineering	1.2.3.1	Understand the properties of material, stress strain. Properties of alloys and cast iron.
				1.2.3.2	Understand the concept measurement and machine tools their operations and their applications.
				1.2.3.3	Understand the concept of fluid flow , properties of fluid, Bernoulli's equation, Pascal's law.
				1.2.3.4	To Understand the concept of heat and temperature, law of thermodynamics, boilers and their mountings and accessories, basic Refrigeration cycles and its applications.
				1.2.3.5	To Understand the working of different cycles and 4 strokes, 2 stroke engines and their applications.
	12	BT-204	Basic Civil Engineering & Mechanics	1.2.4.1	Students will acquire the basic knowledge in different fields of civil engineering and materials used in construction.
				1.2.4.2	Gain the ability to use modern survey equipment to measure angles and distances.
				1.2.4.3	Students will understand the basic of contour lines and map

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

				1.2.4.4	Students will have the ability to identify, formulate and solve engineering problems related to Engineering Mechanics: Statics
				1.2.4.5	Students will be able to analyse beam for shear force and bending moment.
	13	BT-205	Basic Computer Engineering	1.2.5.1	Able to understand the basic applications of computers in various fields, describe operating system, its role and functionalities and to apply concepts of MS word, MS power point, MS Excel efficiently.
				1.2.5.2	Discuss and apply simple algorithms for arithmetic and logical problems.
				1.2.4.3	Translate the algorithms to programs applyingobject-oriented concepts in C++ programming language.
				1.2.4.4	Understand basics of computer networks, OSI layers and protocols, E commerce applications, impact of securitythreats and attacks on networking systems and also security measures
				1.2.4.5	Understand the different method for representing and processing data and to get awareness about the impact of cloud computing, its various type of services.
	14	BT-206	Language Lab & Seminars	1.2.6.1	learners to develop good listening skills.
				1.2.6.2	Encourages learner to talk freely and lose their shyness when talking in front of the people
				1.2.6.3	To develop the overall personality of the students by the practical activities
				1.2.6.4	Helps in confidence building, motivation to be more presentable and help in removing the stage fright
				1.2.6.5	Develops speaking, writing, reading, listening and presentation skills.
	15	BT-107	Internship-I (60 Hrs Duration) at the Institute level	1.1.7.1	
				1.1.7.2	
				1.1.7.3	
				1.1.7.4	
				1.1.7.5	

SEMESTER III

S. No.	Subject Code	Subject Name	CO	CO Description
1	ES-301	Energy & Environmental Engineering	2.3.1.1	Get the knowledge of energy carriers, energy technologies, renewable energy resources, energy challenges and energy system integration and environment sustainability.
			2.3.1.2	Learn about the different types of ecosystems present in environment, ecological succession and energy flow in the ecosystem.
			2.3.1.3	Understand the value of bio-diversity to human societies, threats to bio-diversity, In-situ and Ex-situ conservation of bio-diversity.
			2.3.1.4	Acquire knowledge of different types of environmental pollution, its effects on life and its remedies.
			2.3.1.5	Aware about the social issue related to the environment, environment ethics, protection and conservation acts for the environment.
2	CS-302	Discrete Structure	2.3.2.1	Students will be able to understand the notion of mathematical thinking and algorithmic thinking and be able to apply them in problem solving such as formula specifications, verifications and basic concepts of set theory.
			2.3.2.2	Understand the basic principle of boolean algebra, logic and set theory.
			2.3.2.3	Be able to construct simple mathematical proof and possess the ability to verify them.

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

			2.3.2.4	Acquire ability to describe computing problems with the help of graph theory and finite state machines, also express its utility in solving and modeling real time problems.
			2.3.2.5	Apply basic counting techniques to solve combinatorial problem.
3	CS-303	Data Structure	2.3.3.1	To understand the concept of linear, non-linear data structures, the operations performed on them and the applications of various data structures.
			2.3.3.2	Understand the arrays, searching and sorting algorithms.
			2.3.3.3	Implement stacks, queues and its applications.
			2.3.3.4	Implement linked list and its variations.
			2.3.3.5	Solve problem involving graphs, trees and heaps.
4	CS-304	Digital Systems	2.3.4.1	Understand the concept of number systems & binary arithmetic.
			2.3.4.2	To study the boolean algebra and minimization of switching function.
			2.3.4.3	Understand logic gates, universal gate, adders & subtractors.
			2.3.4.4	Demonstrate linear wave shaping circuits, logic families, multiplexers and memory.
			2.3.4.5	Understand basic digital communication system.
5	CS-305	Object Oriented Programming & Methodology	2.3.5.1	Describe the procedural and object oriented paradigm with concepts of streams, classes, functions, data and objects.
			2.3.5.2	Understand dynamic memory management techniques using pointers, constructors, destructors etc.
			2.3.5.3	Describe the concept of function overloading, operator overloading, virtual functions and polymorphism.
			2.3.5.4	Understand how to apply the major object-oriented concepts to implement object oriented programs in C++, encapsulation, inheritance and polymorphism.
			2.3.5.5	Classify inheritance with the understanding of early and late binding, usage of exception handling, generic programming.
6	CS-306	Computer Workshop	2.3.6.1	Understand the concepts of Java programming.
			2.3.6.2	Understand fundamentals of programming such as variables, conditional and iterative execution, methods, etc.
			2.3.6.3	Understand fundamentals of object-oriented programming in Java and be familiar of the important concepts like class, inheritance and multithreading, AWT and JDBC.
			2.3.6.4	Use the Java SDK environment to create, debug and run Java programs.
			2.3.6.5	Develop Java applet.
7	BT-107	Evaluation of Internship-I completed at I year level	1.1.7.1	To display the utility of information and talent units obtained from the path and place of business withinside the assigned task function.
			1.1.7.2	Solve actual existence demanding situations withinside the path via way of means of analysing the area and choosing suitable ability units obtained from the path.
			1.1.7.3	Exhibit important questioning and hassle fixing talents via way of means of analysing underlying issues to challenges.
			1.1.7.4	Demonstrate the capacity to harness assets with the aid of using analysing demanding situations and thinking about opportunities.
			1.1.7.5	Articulate profession alternatives via way of means of thinking about possibilities in company, sector, industry, expert and academic advancement.

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

8	BT-307	90 hrs Internship based on using various softwares – Internship -II	2.3.8.1	Demonstrate the application of knowledge and skill sets acquired from the course and workplace in the assigned job functions.
			2.3.8.2	Solve real life challenges in the workplace by analysing work environment and conditions, and selecting appropriate skill sets acquired from the course.
			2.3.8.3	Exhibit critical thinking and problem solving skills by analysing the challenges.
			2.3.8.4	Demonstrate appreciation and respect for diverse groups of professionals by engaging harmoniously with different company stakeholders.
			2.3.8.5	Exhibit professional ethics by displaying positive disposition during internship.
Semester - IV				
9	BT-401	Mathematics- III	2.4.1.1	**Understand** mathematical tools for the numerical solutions algebraic and transcendental equations.
			2.4.1.2	Describe mathematical knowledge to understand laplace transformation, inverse laplace transformation and fourier transform which are used in various branches of engineering.
			2.4.1.3	Work with mathematical tools available in statistics needed in various field of science and engineering.
			2.4.1.4	Fulfill the needs of engineers to understand applications of numerical analysis, transform calculus and statistical techniques in order to acquire mathematical knowledge.
			2.4.1.5	Solve wide range of practical problems appearing in different sections of science and engineering.
10	CS-402	Analysis Design of Algorithm	2.4.2.1	Implement sorting and searching algorithms.
			2.4.2.2	Experiment with techniques for obtaining maximum outputs with minimum efforts.
			2.4.2.3	Make use of dynamic program.
			2.4.2.4	Solve 8 queens problem and others of the kind for application in real world scenario.
			2.4.2.5	Distinguish between NP-hard and NP-complete problems and develop their solutions.
11	CS-403	Software Engineering	2.4.3.1	Define various software application domains and remember different process models used in software development.
			2.4.3.2	Understand various measures of software and generate project schedule.
			2.4.3.3	Describe functional and nonfunctional requirements of software and develop design modules of software.
			2.4.3.4	Investigate the reasons for bugs and apply the software testing techniques in commercial environment.
			2.4.3.5	Understand various activities to be performed for improving software quality and software maintenance.
12	CS-404	Computer Org. & Architecture	2.4.4.1	Define the structure, function and characteristics of computer systems.
			2.4.4.2	Design of the various functional units and components of computers.
			2.4.4.3	Identify the elements of input output in computers.
			2.4.4.4	Explain the function of each element of a memory hierarchy.
			2.4.4.5	Understand the function of multi processing and techniques to achieve it.
13	CS-405	Operating Systems	2.4.5.1	Gain knowledge of history of operating systems and understand design issues associated with operating systems.

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

			2.4.5.2	Understand issues related to file system interfaces and implementation, disk management.
			2.4.5.3	Identify the process management policies and analyze and compare scheduling of processes by CPU along with memory management.
			2.4.5.4	Understand concepts of memory management (including virtual memory), I/O and concurrency control.
			2.4.5.5	Understand network distributed and multiprocessing operating system.
14	CS-406	Programming Practices	2.4.6.1	Use an integrated development environment to write, compile, run, and test simple object-oriented Java programs.
			2.4.6.2	Read and make elementary modifications to Java programs that solve real-world problems.
			2.4.6.3	Validate input in a Java program.
			2.4.6.4	Identify and fix defects and common security issues in code.
			2.4.6.5	Document a Java program using Javadoc.
15	BT-407	90 hrs Internship based on using various software - Internship - II	2.4.7.1	Exposure to organizational skills and professional practices.
			2.4.7.2	Efficiently completing tasks, fostering good relationship with seniors and subordinates
			2.4.7.3	Improved communication & interpersonal skills.
			2.4.7.4	Exposure to latest technology applications to the specific discipline.
			2.4.7.5	Identification of relevant problems in the industry and innovative solutions.
Semester - V				
17	CS-501	Theory of Computation	3.5.1.1	Explain the basic concepts of switching and finite automata theory and languages.
			3.5.1.2	Relate practical problems to languages, automata the computability and complexity.
			3.5.1.3	Construct abstract models of computing and check their power to recognise the languages.
			3.5.1.4	Analyse the grammar, its types, simplification and normal form.
			3.5.1.5	Interpret rigorously formal mathematical methods to prove properties of languages, grammars and automata.
18	CS-502	Database Management Systems	3.5.2.1	To understand the different issues involved in the design and implementation of a database system.
			3.5.2.2	To understand and use data manipulation language to query, update, and manage a database.
			3.5.2.3	To develop an understanding of essential Normalization concepts
			3.5.2.4	To develop an understanding of essential DBMS concepts such as: Transaction, concurrency
			3.5.2.5	To become aware of current trends in DBMS
19	CS-503	Pattern Recognition	3.5.3.1	To understand the supervised learning and unsupervised learning.
			3.5.3.2	Describe the various levels of classification models.
			3.5.3.3	Describe the various levels of clustering and it's algorithms.
			3.5.3.4	Understand this feature extraction and its models.
			3.5.3.5	Construct various types of pattern recognition models.
20	CS-504	Internet and Web Technology	3.5.4.1	Describe the concepts of WWW including browser and HTTP protocol.
			3.5.4.2	List the various HTML tags and use them to develop the user friendly web pages.

IQAC

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

			3.5.4.3	Define the CSS with its types and use them to provide the styles to the web pages at various levels.
			3.5.4.4	Developed the modern web pages using the HTML and CSS features with different layout as per the need of applications.
			3.5.4.5	Use of JavaScript to develop the dynamic web pages and PHP.
21	CS-505	Lab (Linux)	3.5.5.1	Understand Functions of operating system and its types and Unix system architecture.
			3.5.5.2	Understand and make use of the basic commands of linux operating system and Work confidently in Linux environment.
			3.5.5.3	Understand file systems and illustrate various file operations.
			3.5.5.4	Create shell scripts to automate different tasks as Linux.
			3.5.5.5	Understand installation of web servers and proxy servers.
22	CS-506	Lab (Python)	3.5.6.1	Understand the basic concepts scripting and the contributions of scripting language.
			3.5.6.2	Examine the core data structures like lists, dictionaries, tuples and sets in Python to store, process and sort the data.
			3.5.6.3	Identify the external modules and import specific methods form them.
			3.5.6.4	Demonstrate proficiency in handling Strings and file systems.
			3.5.6.5	Explore python especially the object-oriented concepts, and the built in objects of Python.
23	CS-507	Evaluation of Internship-II	3.5.7.1	To display the utility of information and talent units obtained from the path and place of business withinside the assigned task functions.
			3.5.7.2	Solve actual existence demanding situations withinside the path via way of means of analysing the area and choosing suitable ability units obtained from the path.
			3.5.7.3	Exhibit important questioning and hassle fixing talents via way of means of analysing underlying issue/s to challenges.
			3.5.7.4	Demonstrate the capacity to harness assets with the aid of using analysing demanding situations and thinking about opportunities.
			3.5.7.5	Articulate profession alternatives via way of means of thinking about possibilities in company, sector, industry, expert and academic advancement.
24	CS-508	Minor Project- I	3.5.8.1	A fully engaged student shall be able to get exposure to undertake a short research project.
			3.5.8.2	To enable the students to develop comprehensive solution of identified problems.
			3.5.8.3	To inculcate the ability to synthesize the results of the detailed analytical studies conducted, lay down validity and design criteria, interpret the result for application to the problem, develop the concept and detailed design solution.
Semester - VI				
25	CS-601	Machine Learning	3.6.1.1	Apply knowledge of computer and mathematics to machine learning problems, models and algorithms.
			3.6.1.2	Analyse the problem and identify the computing requirements appropriate for its solutions.
			3.6.1.3	Design, implement, and evaluate an algorithm to meet desired needs.
			3.6.1.4	Apply mathematical foundations, algorithmic principles, and computer science theory to the modelling and design of computer-based systems in a way that demonstrates comprehension of the trade-offs involved in design choices.

IQAC

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

			3.6.1.5	Analyze the co-occurrence of data to find interesting frequent patterns and Preprocess the data before applying to any real-world problem and can evaluate its performance.
26	CS-602	Computer Networks	3.6.2.1	Characterise and appreciate computer networks from the viewpoint of components and from the viewpoint of services.
			3.6.2.2	Display good understanding of the flow of a protocol in general and a network protocol in particular.
			3.6.2.3	Model a problem or situation in terms of layering consent and map it to the TCP/IP stack.
			3.6.2.4	Select the most suitable application layer protocol such as (HTTP, STTP, SMTP, DNS bit torrent) and as per the requirements of the network application and work with available tools to demonstrate the working of these protocols.
			3.6.2.5	Design a reliable data transfer protocol and incrementally and develop solutions for the requirements of transport layer.
27	CS-603	Compiler Design	3.6.3.1	Demonstrate an understanding of the compilation phases.
			3.6.3.2	Specify and analyze the lexical, syntactic and semantic structures of advanced language features.
			3.6.3.3	Write a scanner, parser, and semantic analyser without the aid of automatic generators.
			3.6.3.4	Describe techniques for intermediate code and machine code optimization.
			3.6.3.5	Design the structures and support required for compiling advanced language features
28	CS-604	Project Management	3.6.4.1	Understanding the evolution and improvement of software economics according to the basic parameters and transition to the modern software management.
			3.6.4.2	Learning objectives, activities and evaluation criteria of the various phases of the life cycle of software management process.
			3.6.4.3	Gaining knowledge about the various artefacts, workflows and check points of the software management process and exploring the design concepts using model-based architecture from technical and management perspective.
			3.6.4.4	Develop an understanding of project planning, organisation, responsibilities, automation and control of the processes to achieve the desirable results.
			3.6.4.5	Develop a project scope while considering factors such as customer requirements and internal/external goals.
29	CS-605	Data Analytics Lab	3.6.5.1	Understand the basic of data analytics using concepts of statistics and probability.
			3.6.5.2	Understand the needs of data processing techniques.
			3.6.5.3	Implement the data analytics techniques using R, Matlab and python.
			3.6.5.4	Apply the data analytics techniques in real life applications.
			3.6.5.5	Articulate the limitations and abuses of formal inference and modeling.
30	CS-606	Skill Development Lab	3.6.6.1	Demonstrate the basics of software as a product.
			3.6.6.2	Understand the current requirements of industries.
			3.6.6.3	Implement the software as a product using different design patterns.
			3.6.6.4	Apply the software development techniques in real life applications.
31	CS-607	Internship-III	3.6.7.1	To display the utility of information and talent units obtained from the path and place of business withinside the assigned task functions.

IQAC

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

			3.6.7.2	Solve actual existence demanding situations withinside the path via way of means of analysing the area and choosing suitable ability units obtained from the path.
			3.6.7.3	Exhibit important questioning and hassle fixing talents via way of means of analysing underlying issues to challenges.
			3.6.7.4	Demonstrate the capacity to harness assets with the aid of using analysing demanding situations and thinking about opportunities.
			3.6.7.5	Articulate profession alternatives via way of means of thinking about possibilities in company, sector, industry, expert and academic advancement.
32	CS-608	Minor Project II	3.6.8.1	A fully engaged student shall be able to get exposure to undertake a short research project.
			3.6.8.2	To enable the students to develop comprehensive solution of identified problems.
			3.6.8.3	To inculcate the ability to synthesize the results of the detailed analytical studies conducted, lay down validity and design criteria, interpret the result for application to the problem, develop the concept and detailed design solution.
Semester - VII				
33	CS-701	Software Architectures	4.7.1.1	Describe the fundamentals of software architecture, qualities and terminologies.
			4.7.1.2	Understand the fundamental principles and guidelines for software architecture design,architectural styles, patterns, and frameworks.
			4.7.1.3	Use implementation techniques of Software architecture for effective software development.
			4.7.1.4	Apply core values and principles of software architectures for enterprise application development.
			4.7.1.5	Describe software architecture documentation.
34	CS-702	Big Data	4.7.2.1	Design and create traditional networks.
			4.7.2.2	Understand the different issues in MAC and routing issues in multi hop wireless and ad-hoc networks and existing solutions for the same.
			4.7.2.3	Evaluate the transport layer issues in wireless networks due to errors and mobility of nodes and understand existing solutions for the same.
			4.7.2.4	Explain the architecture of GSM.
			4.7.2.5	Discuss the services, emerging issues and future trends in m-commerce.
35	CS-703	Disater management System	4.7.3.1	Describe the fundamental principles and practices associated with each of the agile development methods.
			4.7.3.2	Compare agile software development model with traditional development models and identify the benefits and pitfalls.
			4.7.3.3	Use techniques and skills to establish and mentor Agile Teams for effective software development.
			4.7.3.4	Apply core values and principles of Agile Methods in software development.
			4.7.3.5	Judge and craft appropriate adaptations to existing practices or processes depending upon analysis of typical problems.
36	CS-704	Departmental Elective Lab CS-702 [Big Data]	4.7.4.1	Demonstrate wireless network with number of nodes and different parameters using simulator.
			4.7.4.2	Understand the basic concept of inter-networking devices.
			4.7.4.3	Describe the basic concept of IP addressing.

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

			4.7.4.4	Execute the basic network command and Network configuration commands.
			4.7.4.5	Configure network using routing protocol.
37	CS-705	Open Elective Lab CS-703 [Disaster Management System]	4.7.5.1	Understand agile development processes and the principles behind the Agile manifesto.
			4.7.5.2	Develop a product vision, customer journey, and roadmap.
			4.7.5.3	Build out a backlog and user stories.
			4.7.5.4	Leverage Scrum practices in small teams as you build out a working prototype for your class project.
			4.7.5.5	Explore advanced and emerging topics in the domain of software development.
38	CS-706	Major Project-I	4.7.6.1	Demonstrate a sound technical knowledge of their selected project topic.
			4.7.6.2	Undertake problem identification, formulation and solution.
			4.7.6.3	Design engineering solutions to complex problems utilising a systems approach.
			4.7.6.4	Communicate with engineers and the community at large in written and oral forms.
			4.7.6.5	Demonstrate the knowledge, skills and attitudes of a professional engineer.
39	CS-607	Evaluation of Internship -III	4.6.7.1	Demonstrate awareness of the ethics involved in doing an internship.
			4.6.7.2	Describe, analyze, and synthesize their learning experience in the internship in the form of an internship paper.
			4.6.7.3	Articulate new learning from the internship experience in the form of an oral presentation.
			4.6.7.4	Show understanding and assess the challenges carrying out an internship in a cross cultural setting with limited language skills and in a short timeframe;
			4.6.7.5	Gain meaningful and practical experience in their chosen field.
Semester - VIII				
40	CS-801	Internet of Things	4.8.1.1	Understand Internet of Things and its hardware and software components.
			4.8.1.2	Interface I/O devices, sensors & communication modules.
			4.8.1.3	Analyze data from various sources in real-time and take necessary actions in an intelligent fashion.
			4.8.1.4	Remotely monitor data and control devices.
			4.8.1.5	Develop real life IoT based projects.
41	CS-802	Object Oriented Software Engineering	4.8.2.1	Apply object oriented principles in software design process.
			4.8.2.2	Understand the phases involved in SDLC.
			4.8.2.3	Describe the use case and activity diagrams.
			4.8.2.4	Draw class, object and interaction diagrams.
			4.8.2.5	Understand testing strategies and test cases for OO software process.
42	CS-803	Managing Innovation and Entrepreneurship	4.8.3.1	Students will be able to get knowledge to real-life organisational issues faced by those establishing and managing innovation-driven organisations.
			4.8.3.2	Students will be able to know about the key concepts underpinning entrepreneurship and its application in the recognition and exploitation of product service process opportunities.
			4.8.3.3	Key concepts underpinning innovation and the issues associated with developing and sustaining innovation within organisations.

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

			4.8.3.4	How to design creative strategies for pursuing, exploiting and further developing new opportunities.
			4.8.3.5	Issues associated with securing and managing financial resources in new and established organisations.
43	CS-804	Cloud computing	4.8.4.1	Configure various virtualization tools such as virtual box, VMware workstation.
			4.8.4.2	Design and deploy a web application in a PaaS environment.
			4.8.4.3	Learn how to simulate a cloud environment to implement new schedulers.
			4.8.4.4	Install and use a generic cloud environment that can be used as a private cloud.
			4.8.4.5	Manipulate large data sets in a parallel environment.
44	CS-805	Major Project-II	4.8.5.1	Learn about different software development process models and software engineering principles and develop an ability to apply them to software design of real life problems.
			4.8.5.2	Plan, analyze, design and implement a software project using programming languages like Java, ASP, PHP etc.
			4.8.5.3	Gain confidence at having conceptualized, designed and implemented a working major project with their team.
			4.8.5.4	Understand the fundamental principles of Software Project management & will also have a good knowledge of responsibilities of project manager and how to handle these.
			4.8.5.5	Be familiar with the different methods and techniques used for project management.

CO PO and PSO Mapping: Department of Computer Science and Engineering

S. No	Subject Code	Subject Name	CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
Semester - III																		
1	ES-301	Energy & Environmental Engineering	2.3.1.1	3	2	3	2				3	2				3	2	1
			2.3.1.2	3	1		3	3								3	1	1
			2.3.1.3	3		2	1		3	3						3		1
			2.3.1.4	2	1	3		3	2							3	2	1
			2.3.1.5		3	2	3	3									2	1
			CO Avg	2.75	1.75	2.5	2.25	3	2.5	3	3	2				3	1.75	1
2	CS-302	Discrete Structure	2.3.2.1	2	2	3	2		1						1	2	3	1
			2.3.2.2	1			3									1	3	
			2.3.2.3	2		3										2	3	
			2.3.2.4	1		2			3					2		1	2	3
			2.3.2.5		3	2											3	

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

			CO Avg	1.5	2.5	2.67	2.33		2					2	1	1.5	2.8	2
3	CS-303	Data Structure	2.3.3.1	2	1	3			1						2	2	3	1
			2.3.3.2	2	1	2	3									2	3	
			2.3.3.3	1	2	2										1	2	
			2.3.3.4	1	2	3			2							1	3	2
			2.3.3.5	1	2	3	3	1								1	3	
			CO Avg	1.4	1.6	2.6	3	1	1.5						2	1.4	2.8	1.5
4	CS-304	Digital Systems	2.3.4.1	2	1											2	1	
			2.3.4.2	3	2		1									3	2	
			2.3.4.3	3	3											3	3	
			2.3.4.4	3	1	2	2					2	1	3	1	3	3	2
			2.3.4.5	3	2											3	2	
			CO Avg	2.8	1.8	2	1.5					2	1	3	1	2.8	2.2	2
5	CS-305	Object Oriented Programming & Methodology	2.3.5.1	3	2	1	2									3	2	
			2.3.5.2	3	2		2									3	2	
			2.3.5.3	3	1		3							2		3	3	
			2.3.5.4	3	2	2	3					2	1	3	2	3	3	2
			2.3.5.5	3	1		3					2		2	1	3	3	2
			CO Avg	3	1.6	1.5	2.6					2	1	2.33	1.5	3	2.6	2
6	CS-306	Computer Workshop	2.3.6.1	3	1											3	1	
			2.3.6.2	3	2		2									3	2	
			2.3.6.3	3	2	2	3					3		2	2	3	3	3
			2.3.6.4	3	1		2					1		3	1	3	3	1
			2.3.6.5	3		2	1					2		3	1	3	3	2
			CO Avg	3	1.5	2	2					2		2.67	1.33	3	2.4	2
7	BT-107	Evaluation of Internship-I completed at I year level	1.1.7.1	3	1							2		2		3		
			1.1.7.2	3	2		1					2		1		3	1	
			1.1.7.3	3			1									3	1	
			1.1.7.4	3	2		1					2		1		3	2	
			1.1.7.5	3	2							1	2	3	3	3	2	1
			CO Avg	3	1.75		1					1.75	2	1.75	3	3	1.5	1
Semester - IV																		
9	BT-401	Mathematics-III	2.4.1.1		2	3	1	3									3	
			2.4.1.2		1	2	3					1		2	2	2	3	1
			2.4.1.3	1	2	1	2	3				2		2		1	3	2
			2.4.1.4	3	1	2	3		1			1				3	3	1
			2.4.1.5	1	2	3	2		2			1		3	1	1	3	2
			CO Avg	1.67	1.6	2.2	2.2	3	1.5			1.25		2.33	1.5	1.75	3	1.5
10	CS-402		2.4.2.1	1	2	2	1					1		3		1	3	1

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

		Analysis Design of Algorithm	2.4.2.2	1	1	2	3									1	3	
			2.4.2.3	2	1	1	2					3		2		2	2	3
			2.4.2.4	1	1	2	3					1		2	2	2	3	1
			2.4.2.5	1	2	1	3					2	1	1	2	2	3	2
			CO Avg	1.2	1.4	1.6	2.4					1.75	1	2	2	1.6	2.8	1.75
11	CS-403	Software Engineering	2.4.3.1	3	2											3	2	
			2.4.3.2	2	1	2	3									2	3	
			2.4.3.3	3	2	1					1	2	1	3		3	3	2
			2.4.3.4	3	1		2			1	1	3	2	3	1	3	3	3
			2.4.3.5	2		1	3						2	1	2	2	3	2
			CO Avg	2.6	1.5	1.33	2.67			1	1	2.5	1.67	2.33	1.5	2.6	2.8	2.33
12	CS-404	Computer Org. & Architecture	2.4.4.1	3	2											3	2	
			2.4.4.2	3	1	3										3	3	
			2.4.4.3	3	2		2									3	2	
			2.4.4.4	3	2		2					2				3	2	2
			2.4.4.5	3	2		3									3	3	
			CO Avg	3	1.8	3	2.33					2				3	2.4	2
13	CS-405	Operating Systems	2.4.5.1	3	2	3										3	3	
			2.4.5.2	3	2		3									3	3	
			2.4.5.3	3	3		2					3				3	3	3
			2.4.5.4	3	2											3	2	
			2.4.5.5	3	2		2							2	1	3	2	
			CO Avg	3	2.2	3	2.33					3		2	1	3	2.6	3
14	CS-406	Programming Practices	2.4.6.1	3			3	2				2	1	3		3	3	2
			2.4.6.2	3		2	2							3	2	3	3	
			2.4.6.3	3	1		1									3	1	
			2.4.6.4	3	2		3									3	3	
			2.4.6.5	3	3							2				3	3	2
			CO Avg	3	2	2	2.25	2				2	1	3	2	3	2.6	2
Semester - V																		
17	CS-501	Theory of Computation	3.5.1.1	3	2											3	2	
			3.5.1.2	3			3	1				1				3	3	1
			3.5.1.3	3	1		2									3	2	
			3.5.1.4	3	3		1				1		1	2		3	3	1
			3.5.1.5	3	2		3					2		3		3	3	2
			CO Avg	3	2		2.25	1			1	1.5	1	2.5		3	2.6	1.33
18	CS-502		3.5.2.1	3	1	3	2							3		3	3	

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

		Database Management Systems	3.5.2.2	3		3								2		3	3	
			3.5.2.3	2	3	2						2	1	3	1	2	3	2
			3.5.2.4	3			3	2				3	2		1	3	3	2
			3.5.2.5	3	2	3	3	2				2	1	3	1	3	3	2
			CO Avg	2.8	2.5	2.67	3	2				2.33	1.33	2.67	1	2.75	3	2
19	CS-503	Pattern Recognition	3.5.3.1	3	3											3	3	
			3.5.3.2	3			2									3	2	
			3.5.3.3	3		2	3					3	1	2		3	3	3
			3.5.3.4	3		1	3					2		3		3	3	2
			3.5.3.5	3		2	2					2	2	3	2	3	3	2
			CO Avg	3	3	1.67	2.5					2.33	1.5	2.67	2	3	3	2.33
20	CS-504	Internet and Web Technology	3.5.4.1	3	2											3	2	
			3.5.4.2	3			2	1				2		3		3	3	2
			3.5.4.3	3	2											3	2	
			3.5.4.4	3		3	2							3		3	3	
			3.5.4.5	3	2	3	3							2	3	3	3	
			CO Avg	3	2	3	2.33	1				2		2.67	3	3	3	2
21	CS-505	Lab (Linux)	3.5.5.1	3	1	3	2									3	3	
			3.5.5.2	3	2		2	2								3	2	
			3.5.5.3	3	1		1									3	1	
			3.5.5.4	3	1	2	3	2				2	1	3		3	3	2
			3.5.5.5	3	2		3	3								3	3	
			CO Avg	3	1.4	2.5	2.2	2.33				2	1	3		3	3	2
22	CS-506	Lab (Python)	3.5.6.1	3	2											3	2	
			3.5.6.2	3	1		2					1		1		3	2	1
			3.5.6.3	3	2		2	1								3	2	
			3.5.6.4	3	2	1	1					2		2		3	2	2
			3.5.6.5	3		3	2	1								3	3	
			CO Avg	3	1.75	2	1.75	1				1.5		1.5		3	2	1.5
23	CS-507	Evaluation of Internship-II	3.5.7.1	3	1							2		2		3		
			3.5.7.2	3	2		1					2		1		3	1	
			3.5.7.3	3			1									3	1	
			3.5.7.4	3	2		1					2		1		3	2	
			3.5.7.5	3	2							1	2	3	3	3	2	1
			CO Avg	3	1.75		1					1.75	2	1.75	3	3	1.5	1
24	CS-508	Minor Project- I	3.5.8.1	3	1	2	1	1				2	1	2	2	3	2	1
			3.5.8.2	3	2	2	3	2				1		3	2	3	1	1
			3.5.8.3	3	3	2	3	1				2	2	2	2	3	1	2

IQAC

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

			CO Avg	3	2	2	2	2	1			2	2	2	2	3	1	1
Semester - VI																		
25	CS-601	Machine Learning	3.6.1.1	3	1	2	2							2		3	2	
			3.6.1.2	3	3		2									3	3	
			3.6.1.3	3		3	1					2		3	1	3	3	2
			3.6.1.4	3	2		3				1	3	1	2	1	3	3	3
			3.6.1.5	3	3		2					2		3	2	3	3	2
			CO Avg	3	2.25	2.5	2				1	2.33	1	2.5	1.33	3	2.8	2.33
26	CS-602	Computer Networks	3.6.2.1	3	2									1		3	2	
			3.6.2.2	3	3		1									3	3	
			3.6.2.3	3	2	3	2					1		3		3	3	1
			3.6.2.4	3	1	2	3	2				2	1	2		3	3	2
			3.6.2.5	3		3	2							3	2	3	3	
			CO Avg	3	2	2.67	2	2				1.5	1	2.25	2	3	2.8	1.5
27	CS-603	Compiler Design	3.6.3.1	3	2		1							1		3	2	
			3.6.3.2	3	1		2					3				3	2	3
			3.6.3.3	3		3	1					2		2		3	3	2
			3.6.3.4	3	2		3							3		3	3	
			3.6.3.5	3	1		2					1	1	2		3	2	1
			CO Avg	3	1.5	3	1.8					2	1	2		3	2.4	2
28	CS-604	Project Management	3.6.4.1	3			1					2				3	1	2
			3.6.4.2	3	2		2	2			1	1		2		3	2	1
			3.6.4.3	3	2	3	2					2	1		1	3	3	2
			3.6.4.4	3	1	2	2					1		2	1	3	2	1
			3.6.4.5	3	2	2	1							3		3	3	
			CO Avg	3	1.75	2.33	1.6	2			1	1.5	1	2.33	1	3	2.2	1.5
29	CS-605	Data Analytics Lab	3.6.5.1	3	3		1									3	3	
			3.6.5.2	3												3		
			3.6.5.3	3			2					2		3		3	3	2
			3.6.5.4	3	2		1				1	1		2	1	3	2	1
			3.6.5.5	3	1							2	1	1		3	1	2
			CO Avg	3	2		1.33				1	1.67	1	2	1	3	2.25	1.67
30	CS-606	Skill Development Lab	3.6.6.1	3	2											3	2	
			3.6.6.2	3								2				3	1	2
			3.6.6.3	3	1	2	3	2						3	2	3	3	

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

			3.6.6.4	3	1		2							2	1	3	2	
			CO Avg	3	1.25	2	2.5	2				2		2.5	1.5	3	2	2
31	CS-607	Internship-III	3.6.7.1	3	1							2		2		3		
			3.6.7.2	3	2		1					2		1		3	1	
			3.6.7.3	3			1									3	1	
			3.6.7.4	3	2		1					2		1		3	2	
			3.6.7.5	3	2							1	2	3	3	3	2	1
			CO Avg	3	1.75		1					1.75	2	1.75	3	3	1.5	1
32	CS-608	Minor Project II	3.6.8.1	3	1	2	1	1				2	1	2	2	3	2	1
			3.6.8.2	3	2	2	3	2				1		3	2	3	1	1
			3.6.8.3	3	3	2	3	3	1			2	2	2	2	3	1	2
			CO Avg	3	2	2	2	2	1			2	2	2	2	3	1	1
Semester - VII																		
33	CS-701	Software Architectures	4.7.1.1	3	2	3										3	3	
			4.7.1.2	3	1	2	2	2				1		2		3	2	1
			4.7.1.3	3	1	1	3	2						1		3	3	
			4.7.1.4	3	2		2					2	1	2		3	2	2
			4.7.1.5	3	1							2				3	1	2
			CO Avg	3	1.4	2	2.33	2				1.67	1	1.67		3	2.2	1.67
34	CS-702	Big Data	4.7.2.1	3	1	3										3	3	
			4.7.2.2	3	1		2					2	1			3	2	2
			4.7.2.3	3	1		3	1				1				3	3	1
			4.7.2.4	3		1						2		2	1	3	2	2
			4.7.2.5	3	2									1	1	3	2	
			CO Avg	3	1.25	2	2.5	1				1.67	1	1.5	1	3	2.4	1.67
35	CS-703	Disaster Management System	4.7.3.1	3	2		1							1		3	2	
			4.7.3.2	3	1		2					2				3	2	2
			4.7.3.3	3			2					2		1		3	2	2
			4.7.3.4	3	1		3					1	1	2	1	3	3	1
			4.7.3.5	3		1	2	1			1		1		1	3	2	1
			CO Avg	3	1.33	1	2				1	1.67		1.33	1	3	2.2	1.5
36	CS-704	Departmental Elective Lab CS-702 [Big Data]	4.7.4.1	3	1		2	1				2	1	2		3	2	2
			4.7.4.2	3	2											3	2	
			4.7.4.3	3	1									1	2	3	1	
			4.7.4.4	3			3					2				3	3	2

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

			4.7.4.5	3	1		2					2		2		3	2	2
			CO Avg	3	1.25		2.33	1				2	1	1.67	2	3	2	2
37	CS-705	Open Elective Lab CS-703 [Disaster Management System]	4.7.5.1	3	2							3				3	2	3
			4.7.5.2	3		3	1							2		3	3	
			4.7.5.3	3												3		
			4.7.5.4	3	1	1						2		3	1	3	3	2
			4.7.5.5	3		2					1			2	2	3	2	1
			CO Avg	3	1.5	2	1				1	2.5		2.33	1.5	3	2.5	2
38	CS-706	Major Project-I	4.7.6.1	3	2	2	3	1			2	3	2	3	1	3	2	1
			4.7.6.2	3	2	3	3	2	2		1	3	2	2	3	3	2	3
			4.7.6.3	3	2	1	2	2				3	1	2	2	3	1	2
			4.7.6.4	3	1	2	3	2	1		2	2	2	1	2	3	2	2
			4.7.6.5	3	1	3	3	3	1		1	3	2	3	3	3	2	3
			CO Avg	3	1.6	2.2	2.8	2	1.33		1.5	2.8	1.8	2.2	2.2	3	1.8	2.2
39	CS-607	Evaluation of Internship -III	4.6.7.1															
			4.6.7.2															
			4.6.7.3															
			4.6.7.4															
			4.6.7.5															
			CO Avg															
Semester - VIII																		
40	CS-801	Internet of Things	4.8.1.1	3	1	2	2	1								3	2	
			4.8.1.2	3	1		2					2		1		3	2	2
			4.8.1.3	3	3									2		3	3	
			4.8.1.4	3			2							3	1	3	3	
			4.8.1.5	3		3	2	2			1	1	2	2	3	3	3	2
			CO Avg	3	1.67	2.5	2	1.5			1	1.5	2	2	2	3	2.6	2
41	CS-802	Object Oriented Software Engineering	4.8.2.1	3			2							2		3	2	
			4.8.2.2	3	1	2	2	2						2	1	3	2	
			4.8.2.3	3	2											3	2	
			4.8.2.4	3		2								1		3	2	
			4.8.2.5	3	1	2	2	1			1	1				3	2	1
			CO Avg	3	1.33	2	2	1.5			1	1		1.67	1	3	2	1
42	CS-803	Managing Innovation and	4.8.3.1	3	2								1	2	1	3	2	1
			4.8.3.2	3	1.5	2				1	1	2	1	3	2	3	3	2

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

		Entrepreneurship	4.8.3.3	3	1		1					2		2	1	3	2	2
			4.8.3.4	3		3	1					1		3	2	3	3	1
			4.8.3.5	3			2			1		2			2	3	2	2
			CO Avg	3	1.33	3	1.5			1	1	1.75	1	2.5	1.6	3	2.4	1.6
43	CS-804	Cloud computing	4.8.4.1	3		1	3									3	3	
			4.8.4.2	3		3	2	2				2		3	1	3	3	2
			4.8.4.3	3			3	1				1		2		3	3	1
			4.8.4.4	3			3	2				2	1	2		3	3	2
			4.8.4.5	3	1	2	3	2				1	1	3		3	3	1
			CO Avg	3	1	2	2.8	1.75				1.5	1	2.5	1	3	3	1.5
44	CS-805	Major Project-II	4.8.5.1	3	2	2	3	1			2	3	2	3	1	3	2	1
			4.8.5.2	3	2	3	3	2	2		1	3	2	2	3	3	2	3
			4.8.5.3	3	2	1	2	2				3	1	2	2	3	1	2
			4.8.5.4	3	1	2	3	2	1		2	2	2	1	2	3	2	2
			4.8.5.5	3	1	3	3	3	1		1	3	2	3	3	3	2	3
			CO Avg	3	1.6	2.2	2.8	2	1.33		1.5	2.8	1.8	2.2	2.2	3	1.8	2.2

Department of Artificial Intelligence and Machine Learning : Course Outcomes Description

Semester - III

S. No.	Subject Code	Subject Name	CO	CO Description
1	AL301	Technical Communication	2.3.1.1	Understand the process, scope and forms of communication.
			2.3.1.2	Learn about the verbal and non-verbal communication and be able to effectively communicate.
			2.3.1.3	Effectively write technical reports, letters and memos and improve speaking skills.
			2.3.1.4	Actively participate in group discussion and interviews and prepare & deliver professional presentations.
			2.3.1.5	Understand the use of grammar, vocabulary and pronunciation etiquettes to develop fluent speaking skills.
2	AL302	Introduction to Probability and Statistics	2.3.2.1	Understand the basics of probability and discrete random variables.
			2.3.2.2	Acquire the knowledge of continuous random variables with their distributions and properties.
			2.3.2.3	Be able to learn bivariate distributions and their properties.
			2.3.2.4	Gain the knowledge of measures of central tendency, measures of dispersion, skewness and kurtosis and their use in studying various characteristics of data.
			2.3.2.5	Understand methods of curve fitting and test of significance.

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

3	AL303	Data Structure	2.3.3.1	To understand the concept of linear, non-linear data structures, the operations performed on them and the applications of various data structures.
			2.3.3.2	Understand the arrays, searching and sorting algorithms.
			2.3.3.3	Implement stacks, queues and its applications.
			2.3.3.4	Implement linked list and its variations.
			2.3.3.5	Solve problem involving graphs, trees and heaps.
4	AL304	Artificial Intelligence	2.3.4.1	Understand the basic concepts of AI and compare different AI search techniques.
			2.3.4.2	To study various techniques of knowledge representaion.
			2.3.4.3	Understand the probabilistic reasoning techniques to handle degree of uncertainty in knowledge.
			2.3.4.4	Learn game playing techniques and explore components of NLP.
			2.3.4.5	Analyze the characteristics, requirements and components of expert systems.
5	AL305	ObjectOriented Programming & Methodology	2.3.5.1	Describe the procedural and object oriented paradigm with concepts of streams, classes, functions, data and objects.
			2.3.5.2	Understand dynamic memory management techniques using pointers, constructors, destructors etc.
			2.3.5.3	Describe the concept of function overloading, operator overloading, virtual functions and polymorphism.
			2.3.5.4	Understand how to apply the major object-oriented concepts to implement object oriented programs in C++, encapsulation, inheritance and polymorphism.
			2.3.5.5	Classify inheritance with the understanding of early and late binding, usage of exception handling, generic programming.
6	AL306	Computer Workshop/Introduction to python - I	2.3.6.1	Develop essential programming skills in programming concepts like data types,operators, input/output, functions etc
			2.3.6.2	Experiment with various Data structures in interpreted Language and to build modules for real world software problems.
			2.3.6.3	Solve coding tasks related to conditions, loops and control statement.
			2.3.6.4	Implement object-oriented principles and exception handling in Python
			2.3.6.5	Work with modeules, packages and file I/O.
7	BT-107	Evaluation of Internship-I completed at I year level	1.1.7.1	To display the utility of information and talent units obtained from the path and place of business withinside the assigned task function.
			1.1.7.2	Solve actual existence demanding situations withinside the path via way of means of analysing the area and choosing suitable ability units obtained from the path.
			1.1.7.3	Exhibit important questioning and hassle fixing talents via way of means of analysing underlying issues to challenges.
			1.1.7.4	Demonstrate the capacity to harness assets with the aid of using analysing demanding situations and thinking about opportunities.
			1.1.7.5	Articulate profession alternatives via way of means of thinking about possibilities in company, sector, industry, expert and academic advancement.
8	BT-307	90 hrs Internship based on using	2.3.8.1	Demonstrate the application of knowledge and skill sets acquired from the course and workplace in the assigned job functions.

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

		various softwares – Internship -II	2.3.8.2	Solve real life challenges in the workplace by analysing work environment and conditions, and selecting appropriate skill sets acquired from the course.
			2.3.8.3	Exhibit critical thinking and problem solving skills by analysing the challenges.
			2.3.8.4	Demonstrate appreciation and respect for diverse groups of professionals by engaging harmoniously with different company stakeholders.
			2.3.8.5	Exhibit professional ethics by displaying positive disposition during internship.
Semester - IV				
9	AL401	Introduction to Discrete Structure & Linear Algebra	2.4.1.1	Develop the understanding of mathematical structures like set theory, relations and mapping.
			2.4.1.2	Demonstarte the properties of algebric structures like groups, rings and fields.
			2.4.1.3	Learn the concepts of propositional logic and graph theory.
			2.4.1.4	Explore matrix decomposition techniques to solve linear systems.
			2.4.1.5	Apply Hypothesis Testing concepts and formulation.
10	AL402	Analysis Design of Algorithm	2.4.2.1	Understand the concept of asymptotic complexity and implement various sorting and searching algorithms.
			2.4.2.2	Experiment with techniques for obtaining maximum outputs with minimum efforts.
			2.4.2.3	Make use of dynamic programming techniques.
			2.4.2.4	Apply the techniques of backtracking and branch and bound to solve 8 queens problem and travelling salesman problem.
			2.4.2.5	Distinguish between NP-hard and NP-complete problems and develop their solutions.
11	AL403	Software Engineering	2.4.3.1	Define various software application domains and remember different process models used in software development.
			2.4.3.2	Understand various measures of software and generate project schedule.
			2.4.3.3	Describe functional and nonfunctional requirements of software and develop design modules of software.
			2.4.3.4	Investigate the reasons for bugs and apply the software testing techniques in commercial environment.
			2.4.3.5	Understand various activities to be performed for improving software quality and software maintenance.
12	AL404	Computer Org. & Architecture	2.4.4.1	Define the structure, function and characteristics of computer systems.
			2.4.4.2	Design of the various functional units and components of computers.
			2.4.4.3	Identify the elements of input output in computers.
			2.4.4.4	Explain the function of each element of a memory hierarchy.
			2.4.4.5	Understand the function of multi processing and techniques to achieve it.
13	AL405	Machine Learning	2.4.5.1	Gain knowledge of basics of machine learning algorithms and dimentionality reduction techniques.
			2.4.5.2	Design and develop the perceptron neural network.
			2.4.5.3	Analyze and apply various algorithms of supervised Learning.
			2.4.5.4	Examine the concept of clustering and expectation maximization.

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

			2.4.5.5	Evaluate the performance of the machine learning model using various parameters.
14	AL406	Java Lab	2.4.6.1	Learn to install Java IDE and to write, compile and run simple Java programs.
			2.4.6.2	Apply the concept of object oriented programming using java language to solve real world problems.
			2.4.6.3	Implement the concept of Java Applets by creating sample programs.
			2.4.6.4	Design and develop GUI applications using Abstract Windowing Toolkit (AWT) and swing.
			2.4.6.5	Learn to access database through Java programs, using Java Data Base Connectivity (JDBC).
15	BT-407	90 hrs Internship based on using various software - Internship - II	2.4.7.1	Exposure to organizational skills and professional practices.
			2.4.7.2	Efficiently completing tasks, fostering good relationship with seniors and subordinates
			2.4.7.3	Improved communication & interpersonal skills.
			2.4.7.4	Exposure to latest technology applications to the specific discipline.
			2.4.7.5	Identification of relevant problems in the industry and innovative solutions.
Semester - V				
16	AL-501	Operating System	3.5.1.1	To understand about the need and objectives of an Operating System and various services provided by the Operating Systems.
			3.5.1.2	Gain a detailed knowledge about the functions of different modules of an Operating System, viz. process management, file system management, memory management,device management etc.
			3.5.1.3	Visualize the internal implementation of various modules of Operating System and correlate the same with the actual implementation of these modules in Unix/Linux and other contemporary Operating Systems.
			3.5.1.4	Understand the cocept of memory management.
			3.5.1.5	Explore input output management of operating systems
17	AL-502	Database Management System	3.5.2.1	Describe design of a database at various levels and compare andcontrast traditional data processing with DBMS.
			3.5.2.2	Design a database using Entity Relationship diagram and other design techniques
			3.5.2.3	Apply fundamentals of relational model to model and implement a sample Database Management System for a given domain.
			3.5.2.4	Evaluate and optimize queries and apply concepts of transaction management.
			3.5.2.5	Explore relational database management systems for real world problems
18	AL-503(B)	Deep Learning	3.5.3.1	Describe in-depth about theories, fundamentals, and techniques in Deep learning.
			3.5.3.2	To understand the methods and terminologies involved in deep neural network
			3.5.3.3	To impart knowledge on CNN and pretrained neural networks
			3.5.3.4	To introduce RNN and Deep Generative model
			3.5.3.5	To explore real world applications of Deep learning
19	AL-504 (A)	AI in Health Care	3.5.4.1	To explore computer vision techniques for disease detection and diagnosis

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

			3.5.4.2	Understand different evaluation and hyper parameters for medical imagining
			3.5.4.3	Exploring use of AI in differemt medical applications
			3.5.4.4	Understanding different survival and Time Survival Models
			3.5.4.5	Exploring Medical Treatment Effect Estimation
20	AL-504 (B)	Natural Language Processing	3.5.4.1	To learn the fundamentals of natural language processing
			3.5.4.2	To learn the word level analysis methods
			3.5.4.3	To explore the syntactic analysis concepts.
			3.5.4.4	To understand the semantics and pragmatics.
			3.5.4.5	To leTo understand real world applications of NLP
21	AL-505(B)	Deep Learning Lab	3.5.5.1	Describe tools and techniques in Deep learning.
			3.5.5.2	Implement artificial neural network thorugh forward and back propogation
			3.5.5.3	To impart knowledge on CNN and pretrained neural networks
			3.5.5.4	To implement RNN and Deep Generative model
			3.5.5.5	To explore real world applications of Deep learning
22	AL-506(A)	AI in Health Care Lab	3.5.6.1	To explore computer vision techniques for disease detection and diagnosis
			3.5.6.2	Understand different evaluation and hyper parameters for medical imagining
			3.5.6.3	Exploring use of AI in differemt medical applications
			3.5.6.4	Understanding different survival and Time Survival Models
			3.5.6.5	Exploring Medical Treatment Effect Estimation
23	AL-506 (B)	Natural Language Processing Lab	3.5.6.1	To learn the fundamentals of natural language processing
			3.5.6.2	To learn the word level analysis methods
			3.5.6.3	To explore the syntactic analysis concepts.
			3.5.6.4	To understand the semantics and pragmatics.
			3.5.6.5	To leTo understand real world applications of NLP
24	AL-508	Minor Project-1	3.5.8.1	A fully engaged student shall be able to get exposure to undertake a short research project.
			3.5.8.2	To enable the students to develop comprehensive solution of identified problems.
			3.5.8.3	To inculcate the ability to synthesize the results of the detailed analytical studies conducted, lay down validity and design criteria, interpret the result for application to the problem, develop the **concept** and detailed **design** solution.
Semester - VI				
25	AL-601	Theory of Computation	3.6.1.1	Explain the basic concepts of switching and finite automata theory and languages.
			3.6.1.2	Relate practical problems to languages, automata the computability and complexity.
			3.6.1.3	Construct abstract models of computing and check their power to recognise the languages.
			3.6.1.4	Analyse the grammar, its types, simplification and normal form.
			3.6.1.5	Interpret rigorously formal mathematical methods to prove properties of languages, grammars and automata.

IQAC

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

26	AL-602	Computer Networks	3.6.2.1	Characterise and appreciate computer networks from the viewpoint of components and from the viewpoint of services.
			3.6.2.2	Display good understanding of the flow of a protocol in general and a network protocol in particular.
			3.6.2.3	Model a problem or situation in terms of layering consent and map it to the TCP/IP stack.
			3.6.2.4	Select the most suitable application layer protocol such as (HTTP, STTP, SMTP, DNS bit torrent) and as per the requirements of the network application and work with available tools to demonstrate the working of these protocols.
			3.6.2.5	Design a reliable data transfer protocol and incrementally and develop solutions for the requirements of transport layer.
27	A-L603 (A)	Image and Video Processing	3.6.3.1	Understand images and videos representation in a detailed manner.
			3.6.3.2	Apply ML techniques for image processing in different scenarios.
			3.6.3.3	Apply various object detection and image segmentation algorithms
			3.6.3.4	Understand concept of robotic localization
			3.6.3.5	Apply various image restoration techniques and algorithm
28	AL-604 (A)	Cloud Computing	3.6.4.1	Configure various virtualization tools such as virtual box, VMware workstation.
			3.6.4.2	Design and deploy a web application in a PaaS environment.
			3.6.4.3	Learn how to simulate a cloud environment to implement new schedulers.
			3.6.4.4	Install and use a generic cloud environment that can be used as a private cloud.
			3.6.4.5	Manipulate large data sets in a parallel environment.
29	A-L604 (C)	Intelligent Systems for Robotics	3.6.4.1	Understand robotics fundamentals
			3.6.4.2	Explore various application of AI in robotics
			3.6.4.3	Explore cocept of game playing
			3.6.4.4	Understand robotcs classification, specification and reresantation
			3.6.4.5	Explore robotics and AI applications in real world
30	A-L605 (A)	Image and Video Processing Lab	3.6.5.1	Understand images and videos representation in a detailed manner.
			3.6.5.2	Apply ML techniques for image processing in different scenarios.
			3.6.5.3	Apply various object detection and image segmentation algorithms
			3.6.5.4	Understand concept of robotic localization
			3.6.5.5	Apply various image restoration techniques and algorithm
31	AL-606 (A)	Cloud Computing Lab	3.6.6.1	Configure various virtualization tools such as virtual box, VMware workstation.
			3.6.6.2	Design and deploy a web application in a PaaS environment.
			3.6.6.3	Learn how to simulate a cloud environment to implement new schedulers.
			3.6.6.4	Install and use a generic cloud environment that can be used as a private cloud.
			3.6.6.5	Manipulate large data sets in a parallel environment.
32	A-L606 (C)	Intelligent Systems for Robotics Lab	3.6.6.1	Understand robotics fundamentals
			3.6.6.2	Explore various application of AI in robotics
			3.6.6.3	Explore cocept of game playing
			3.6.6.4	Understand robotcs classification, specification and reresantation

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

			3.6.6.5	Explore robotics and AI applications in real world
33	AL-607	Internship-III	3.6.7.1	To display the utility of information and talent units obtained from the path and place of business withinside the assigned task functions.
			3.6.7.2	Solve actual existence demanding situations withinside the path via way of means of analysing the area and choosing suitable ability units obtained from the path.
			3.6.7.3	Exhibit important questioning and hassle fixing talents via way of means of analysing underlying issue/s to challenges.
			3.6.7.4	Demonstrate the capacity to harness assets with the aid of using analysing demanding situations and thinking about opportunities.
			3.6.7.5	Articulate profession alternatives via way of means of thinking about possibilities in company, sector, industry, expert and academic advancement.
34	AL-608	Minor Project II	3.6.8.1	A fully engaged student shall be able to get exposure to undertake a short research project.
			3.6.8.2	To enable the students to develop comprehensive solution of identified problems.
			3.6.8.3	To inculcate the ability to synthesize the results of the detailed analytical studies conducted, lay down validity and design criteria, interpret the result for application to the problem, develop the concept and detailed design solution.

Department of Information Technology : Course Outcomes Description

S. No.	Univ. Subject Code	Subject Name	CO	CO Description
1	ES-301	Energy & Environmental Engineering	2.3.1.1	Get the knowledge of energy carriers, energy technologies, renewable energy resources, energy challenges and energy system integration and environment sustainability.
			2.3.1.2	Learn about the different types of ecosystems present in environment, ecological succession and energy flow in the ecosystem.
			2.3.1.3	Understand the value of bio-diversity to human societies, threats to bio-diversity, In-situ and Ex-situ conservation of bio-diversity.
			2.3.1.4	Acquire knowledge of different types of environmental pollution, its effects on life and its remedies.
			2.3.1.5	Aware about the social issue related to the environment, environment ethics, protection and conservation acts for the environment.
			CO Avgerage	
2	IT302	Discrete Structure	2.3.2.1	Construct simple mathematical proofs and possess the ability to verify them.
			2.3.2.2	Specify and manipulate basic mathematical objects such as sets, functions, and relations and will also be able to verify simple mathematical properties that these objects possess.
			2.3.2.3	skillful in expressing mathematical properties formally via the formal language of propositional logic and predicate logic.

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

			2.3.2.4	Acquire ability to describe computing problems with the help of graph theory and Finite state machines, also express its utility in solving and modeling real time problems.
			2.3.2.5	Apply basic counting techniques to solve combinatorial problem.
			CO Avgerage	
3	IT303	Data Structure	2.3.3.1	Ability to analyze algorithms and algorithm correctness.
			2.3.3.2	Ability to summarize the use of stack and queue in real life applications.
			2.3.3.3	Ability to describe the use of tree.
			2.3.3.4	Ability to have knowledge of graphs concepts.
			2.3.3.5	Ability to summarize searching, sorting and hashing techniques.
			CO Avgerage	
4	IT304	Object Oriented Programming Methodology	2.3.4.1	Understand the concept of number systems & binary arithmetic.
			2.3.4.2	To study the boolean algebra and minimization of switching function.
			2.3.4.3	Understand logic gates, universal gate, adders & subtractors.
			2.3.4.4	Demonstrate linear wave shaping circuits, logic families, multiplexers and memory.
			2.3.4.5	Understand basic digital communication system.
			CO Avgerage	
5	IT305	Digital Circuit System	2.3.5.1	Describe the procedural and object oriented paradigm with concepts of streams, classes, functions, data and objects.
			2.3.5.2	Understand dynamic memory management techniques using pointers, constructors, destructors etc.
			2.3.5.3	Describe the concept of function overloading, operator overloading, virtual functions and polymorphism.
			2.3.5.4	Understand how to apply the major object-oriented concepts to implement object oriented programs in C++, encapsulation, inheritance and polymorphism.
			2.3.5.5	Classify inheritance with the understanding of early and late binding, usage of exception handling, generic programming.
			CO Avgerage	
6	IT306	Java Programming	2.3.6.1	Understand the concepts of Java programming.
			2.3.6.2	Understand fundamentals of programming such as variables, conditional and iterative execution, methods, etc.

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

			2.3.6.3	Understand fundamentals of object-oriented programming in Java and be familiar of the important concepts like class, inheritance and multithreading, AWT and JDBC.
			2.3.6.4	Use the Java SDK environment to create, debug and run Java programs.
			2.3.6.5	Develop Java applet.
			CO Avgerage	
7	BT107	Evaluation of Internship-I completed at I year level	1.1.7.1	To display the utility of information and talent units obtained from the path and place of business withinside the assigned task function.
			1.1.7.2	Solve actual existence demanding situations withinside the path via way of means of analysing the area and choosing suitable ability units obtained from the path.
			1.1.7.3	Exhibit important questioning and hassle fixing talents via way of means of analysing underlying issues to challenges.
			1.1.7.4	Demonstrate the capacity to harness assets with the aid of using analysing demanding situations and thinking about opportunities.
			1.1.7.5	Articulate profession alternatives via way of means of thinking about possibilities in company, sector, industry, expert and academic advancement.
			CO Avgerage	
9	BT-401	Mathematics- III	2.4.1.1	Understand mathematical tools for the numerical solutions algebraic and transcendental equations.
			2.4.1.2	Describe mathematical knowledge to understand laplace transformation, inverse laplace transformation and fourier transform which are used in various branches of engineering.
			2.4.1.3	Work with mathematical tools available in statistics needed in various field of science and engineering.
			2.4.1.4	Fulfill the needs of engineers to understand applications of numerical analysis, transform calculus and statistical techniques in order to acquire mathematical knowledge.
			2.4.1.5	Solve wide range of practical problems appearing in different sections of science and engineering.
			CO Average	
10	IT402	Computer Architecture	2.4.2.1	To define the structure, function and characteristics of computer systems.
			2.4.2.2	To define the design of the various functional units and components of computers.
			2.4.2.3	To identify the elements of modern instructions sets and their impact on processor design.
			2.4.2.4	To explain the function of each element of a memory hierarchy.
			2.4.2.5	To explain the function of multi processing and techniques to achieve it
			CO Avgerage	

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

11	IT403	Analysis and Design of Algorithm	2.4.3.1	The algorithms and its design, relation between algorithm and program, Time and Space complexity of an algorithm
			2.4.3.2	Various approaches to design an algorithm like divide and conquer, dynamic **programming** etc.
			2.4.3.3	Argue the correctness of algorithms using inductive proofs and invariants
			2.4.3.4	Different ways to analyze randomized algorithms and know about the approximation algorithms
			2.4.3.5	Compare between different data structures. Pick an appropriate data structure for a design situation
			CO Avgerage	
12	IT404	Analog & Digital Communication	2.4.4.1	Differentiate Analog and Digital Signal and types of signals.
			2.4.4.2	Understand the communication of information over the communication channel.
			2.4.4.3	Understand how information signal of low frequency can be transmitted with the help of modulation techniques over a long distance.
			2.4.4.4	Differentiate different modulation techniques such as AM, SSB, DSB and FM.
			2.4.4.5	Explain using block diagrams, modulation and demodulation techniques for digital signal and determine bandwidth requirement.
			CO Avgerage	
13	IT405	Data base Management System	2.4.5.1	To understand the different issues involved in the design and implementation of a database system.
			2.4.5.2	To study and learn how to construct ER model
			2.4.5.3	To understand and use data manipulation language to query, update, and manage a database.
			2.4.5.4	To develop an understanding of essential DBMS concepts such as: Normalization.
			2.4.5.5	To design and build a simple database system and demonstrate competence with the fundamental tasks involved with transaction and concurrency control.
			2.4.5.6	
			CO Avgerage	
14	IT406	Introduction to Web Design	2.4.6.1	To familiarize students with open source academic software like Scilab or licensed software like Matlab to carry out experiments in various fields in due course like computer graphics and multimedia, **soft-computing, image processing,** data **mining** etc.
			2.4.6.2	Experimental works in web design will enable students to design web pages and develop web based projects.
			2.4.6.3	To understand various architectural styles of software systems
			2.4.6.4	Interrelationships, principles and guidelines governing architecture and evolution over time

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

			2.4.6.5	Build design documentation outlining the testable and complete design of a simple program
			CO Avgerage	
	IT-407	Open Source Software Lab (Linux and R)	2.4.7.1	Students will be able to understand Functions of operating system and its types and Unix system architecture
			2.4.7.2	Students will be able to understand and make use of the basic commands of linux operating system and Work confidently in Linux environment
			2.4.7.3	Students will be able to understand file systems and illustrate various file operations
			2.4.7.4	Students will be able to create shell scripts to automate different tasks as Linux
			2.4.7.5	Students will understand installation of web servers and proxy servers
			CO Avgerage	
17	IT501	Operating System	3.5.1.1	Explain the role of operating system and its management policies and algorithm.
			3.5.1.2	Identify the process management policies and analyze and compare scheduling of processes by CPU along with memory management.
			3.5.1.3	Identify process synchronization and coordination handled by operating system
			3.5.1.4	Understand concepts of memory management including virtual memory
			3.5.1.5	Understand issues related to file system interface and implementation, disk management and Summarize the introduction to network, multiprocessor and distributed OS, and Elaborate on case studies for the same.
			CO Avgerage	
18	IT502	Computer Network	3.5.2.1	Outline and describe the fundamental concepts of computer network and functions of each layer in OSI and TCP/IP model.
			3.5.2.2	Data link layer issues in a corporate network by identifying functions of data link layer protocols, essential principles of a MAC sub layer and by comparing contention, limited contention and contention free protocols.
			3.5.2.3	Classify the routing protocols to find shortest paths for network-layer packet delivery and analyze how to assign the IP addresses for the given network using the concept of subnetting and Supernetting.
			3.5.2.4	Describe the functions of Transport layer and its Protocols.
			3.5.2.5	Explain the functions of Application layer Protocols and Design a network infrastructure using various internetworking devices.
			3.5.2.6	Relate practical problems to languages, automata, computability and complexity.
			CO Average	

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

19	IT503	Theory of Computation	3.5.3.1	Explain the basic concepts of switching and finite automata theory & languages
			3.5.3.2	Relate practical problems to languages, automata, computability and complexity.
			3.5.3.3	Construct abstract models of computing and check their power to recognize the languages.
			3.5.3.4	Analyze the grammar, its types, simplification and normal form.
			3.5.3.5	Interpret rigorously formal mathematical methods to prove properties of languages, grammars and automata.
			CO Avgerage	
20	IT504	Artificial Intelligence	3.5.4.1	Be familiar with terminology used in this area
			3.5.4.2	Explain what constitutes "Artificial" Intelligence and how to identify systems with Artificial Intelligence
			3.5.4.3	Know how to build simple knowledge-based systems
			3.5.4.4	Have ability to apply knowledge representation, reasoning, and machine learning techniques to real world problems
			3.5.4.5	Introducing learning and various learning techniques
			CO Avgerage	
21	IT505	Advanced Java Lab	3.5.5.1	Understand Functions of operating system and its types and Unix system architecture.
			3.5.5.2	Understand and make use of the basic commands of linux operating system and Work confidently in Linux environment.
			3.5.5.3	Understand file systems and illustrate various file operations.
			3.5.5.4	Create shell scripts to automate different tasks as Linux.
			3.5.5.5	Understand installation of web servers and proxy servers.
			CO Avgerage	
22	IT506	Soft Skills and Interpersonal Communication	3.5.6.1	Student should be able to understand the basic concepts scripting and the contributions of scripting language
			3.5.6.2	Examine the core data structures like lists, dictionaries, tuples and sets in Python to store, process and sort the data.
			3.5.6.3	Identify the external modules and import specific methods form them
			3.5.6.4	Demonstrate proficiency in handling Strings and File Systems.
			3.5.6.5	Ability to explore python especially the object oriented concepts, and the built in objects of Python.
			CO Avgerage	

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

23	IT507	Evaluation of Internship-II	3.5.7.1	Ability to be a multi-skilled engineer with good technical knowledge, management, leadership, social and environmental responsibility, and entrepreneurship skills.
			3.5.7.2	Understand the usage of modern technologies & tools in the field of Electronics & Communication Engineering
			CO Avgerage	
24	IT508	Minor Project- I	3.5.8.1	A fully engaged student shall be able to get exposure to undertake a short research project.
			3.5.8.2	To enable the students to develop comprehensive solution of identified problems.
			3.5.8.3	To inculcate the ability to synthesize the results of the detailed analytical studies conducted, lay down validity and design criteria, interpret the result for application to the problem, develop the concept and detailed design solution.
			CO Avgerage	
25	IT601	Computer Graphics & Multimedia	3.6.1.1	Descried the working of Input and Output devices for graphics.
			3.6.1.2	Match and explain about graphics primitives and work with coordinate spaces, coordinate conversion
			3.6.1.3	Analyze and demonstrate 2D & 3D geometrical transformations using modern tools.
			3.6.1.4	Understand multimedia systems architecture, multimedia components and use various
			3.6.1.5	Distinguish and evaluate he fractals, and the Animation with various techniques
			CO Avgerage	
26	IT602	Wireless and Mobile Computing	3.6.2.1	Design and create traditional networks
			3.6.2.2	Understand the different issues in MAC and routing issues in multi hop wireless and ad-hoc networks and existing solutions for the same.
			3.6.2.3	Evaluate the transport layer issues in wireless networks due to error's and mobility of nodes and understand existing solutions for the same.
			3.6.2.4	Explain the architecture of GSM.
			3.6.2.5	Discuss the services, emerging issues and future trends in M-Commerce.
			CO Avgerage	
27	IT603	Compiler Design	3.6.3.1	Demonstrate an understanding of the compilation phases.
			3.6.3.2	Specify and analyze the lexical, syntactic and semantic structures of advanced language features.
			3.6.3.3	Write a scanner, parser, and semantic analyser without the aid of automatic generators.

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

			3.6.3.4	Describe techniques for intermediate code and machine code optimization.
			3.6.3.5	Design the structures and support required for compiling advanced language features
			CO Avgerage	
28	IT604	Software Engineering	3.6.4.1	To introduce software development life cycle and various software process models
			3.6.4.2	To introduce measures and metrics for software quality, reliability and software estimation techniques
			3.6.4.3	To develop an understanding of software analysis and design phases
			3.6.4.4	To introduce coding standards, guidelines and various software testing techniques
			3.6.4.5	To introduce various activities for software maintenance and quality assurance
			CO Avgerage	
29	IT605	Programming in Python	3.6.5.1	Student should be able to understand the basic concepts scripting and the contributions of scripting language
			3.6.5.2	Examine the core data structures like lists, dictionaries, tuples and sets in Python to store, process and sort the data.
			3.6.5.3	Identify the external modules and import specific methods form them
			3.6.5.4	Create, run and manipulate Python Programs using core data structures like Lists, Dictionaries and use Regular Expressions
			3.6.5.5	Interpret the concepts of GUI and WEB Programming as used in Python
			CO Avgerage	
30	IT606	Android Programming	3.6.6.1	Experiment on Integrated Development Environment for Android Application Development.
			3.6.6.2	Design and Implement User Interfaces and Layouts of Android App.
			3.6.6.3	Use Intents for activity and broadcasting data in Android App.
			3.6.6.4	Design and Implement Database Application and Content Providers
			3.6.6.5	Inspect and Utilize Camera and Location Based service and develop Android App with Security features
			CO Avgerage	
32	IT608	Minor Project II	3.6.8.1	A fully engaged student shall be able to get exposure to undertake a short research project.
			3.6.8.2	To enable the students to develop comprehensive solution of identified problems.
			3.6.8.3	To inculcate the ability to synthesize the results of the detailed analytical studies conducted, lay down validity and design criteria.

IQAC

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

				interpret the result for application to the problem, develop the concept and detailed design solution.
			CO Avgerage	
33	IT701	Soft Computing	4.7.1.1	Students will be able to get knowledge in soft computing vs. hard computing, Artificial Intelligence : Introduction, Various types of production systems, characteristics of production systems.
			4.7.1.2	Students will be able to explore advance concepts in Neural Networks,Learning Process and Learning Task, Supervised Learning – Single and Multi Layer Network, Associative Memory, Self organizing Maps, Neuro-Dynamics, Hopfield Network
			4.7.1.3	Students will learn Fuzzy Logic and Systems Fuzzy Sets and Membership Functions, Operations on Fuzzy Sets, Fuzzification, Fuzzy Numbers- Uncertain Fuzzy Values, Fuzzy Numbers and its L-R representation, Operations on Fuzzy Numbers, Fuzzy Relations, Fuzzy Inference Systems- Architecture of Fuzzy Inference System, Fuzzy Inference Rules and Reasoning, Defuzzification, Applications of Fuzzy Logic.
			4.7.1.4	Students will be able to learn Genetic algorithms and evolutionary computation, Applications of Genetic Algorithms & Hybrid Systems
			4.7.1.5	Describe software architecture documentation.
			CO Avgerage	
34	IT702	Cloud Computing	4.7.2.1	Explain the core concepts of the cloud computing paradigm
			4.7.2.2	Demonstrate knowledge of virtualization
			4.7.2.3	Explain the core issues of cloud computing such as security, privacy, and interoperability
			4.7.2.4	Choose the appropriate technologies, algorithms, and approaches for the related issues
			4.7.2.5	Identify problems, and explain, analyze, and evaluate various cloud computing solutions
			CO Avgerage	
35	IT703	Internet of Things	4.7.3.1	Explain what Internet of Things is.
			4.7.3.2	Describe key technologies in Internet of Things and RFID.
			4.7.3.3	Understand Principles for Web Connectivity and Communication Protocols
			4.7.3.4	Explain Wireless Sensor Network Technology and Sensor data Communication Protocols.
			4.7.3.5	Understand smart city streetlights control & monitoring and Business models for the Internet of Things
			CO Avgerage	

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

36	IT704	Departmental Elective Lab CS-702 [Wireless & Mobile Computing]	4.7.4.1	Demonstrate wireless network with number of nodes and different parameters using simulator.
			4.7.4.2	Understand the basic concept of inter-networking devices.
			4.7.4.3	Describe the basic concept of IP addressing.
			4.7.4.4	Execute the basic network command and Network configuration commands.
			4.7.4.5	Configure network using routing protocol.
			CO Avgerage	
37	IT705	Open Elective Lab CS-703 [Agile Software Development]	4.7.5.1	Understand agile development processes and the principles behind the Agile manifesto.
			4.7.5.2	Develop a product vision, customer journey, and roadmap.
			4.7.5.3	Build out a backlog and user stories.
			4.7.5.4	Leverage Scrum practices in small teams as you build out a working prototype for your class project.
			4.7.5.5	Explore advanced and emerging topics in the domain of software development.
			CO Avgerage	
38	IT706	Major Project-I	4.7.6.1	Demonstrate a sound technical knowledge of their selected project topic.
			4.7.6.2	Undertake problem identification, formulation and solution.
			4.7.6.3	Design engineering solutions to complex problems utilising a systems approach.
			4.7.6.4	Communicate with engineers and the community at large in written and oral forms.
			4.7.6.5	Demonstrate the knowledge, skills and attitudes of a professional engineer.
			CO Avgerage	
39	IT707	Evaluation of Internship -III	4.6.7.1	Demonstrate awareness of the ethics involved in doing an internship.
			4.6.7.2	Describe, analyze, and synthesize their learning experience in the internship in the form of an internship paper.
			4.6.7.3	Articulate new learning from the internship experience in the form of an oral presentation.
			4.6.7.4	Show understanding and assess the challenges carrying out an internship in a cross cultural setting with limited language skills and in a short timeframe;
			4.6.7.5	Gain meaningful and practical experience in their chosen field.
			CO Avgerage	

Indore Institute of Science and Technology IQAC INDORE

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

40	IT801	Information Security	4.8.1.1	Understand key terms and concepts in information security and Cryptography and evaluate the cyber security needs of an organization
			4.8.1.2	Acquire knowledge to secure computer systems, protect personal data, and secure computer networks in an organization
			4.8.1.3	Apply knowledge of various encryption algorithms and authentication mechanisms to secure information in computer systems and networks
			4.8.1.4	Understand principles of web security to secure network by monitoring and analyzing the nature of attacks and design/develop security architecture for an organization.
			4.8.1.5	Design operational and strategic information security strategies and policies.
			CO Avgerage	
41	IT802	Machine Learning	4.8.2.1	Recognize the characteristics of machine learning strategies.
			4.8.2.2	Apply various supervised learning methods to appropriate problems.
			4.8.2.3	Identify and integrate more than one technique to enhance the performance of learning.
			4.8.2.4	Create probabilistic and unsupervised learning models for handling unknown pattern.
			4.8.2.5	Analyze the co-occurrence of data to find interesting frequent patterns and Preprocess the data before applying to any real-world problem and can evaluate its performance
			CO Avgerage	
42	IT803	Parallel Computing	4.8.3.1	To develop an understanding of various basic concepts associated with parallel computing environments
			4.8.3.2	Understand, appreciate and apply parallel and distributed algorithms in problem solving
			4.8.3.3	Acquire skills to measure the performance of parallel and distributed programs
			4.8.3.4	Design parallel programs to enhance machine performance in parallel hardware environment
			4.8.3.5	Design and implement parallel programs in modern environments such as CUDA, OpenMP, etc
			CO Avgerage	
43	IT804	Machine Learning Lab	4.8.4.1	Recognize the characteristics of machine learning strategies
			4.8.4.2	Apply various supervised learning methods to appropriate problems.
			4.8.4.3	Identify and integrate more than one technique to enhance the performance of learning.
			4.8.4.4	Create probabilistic and unsupervised learning models for handling unknown pattern.

Principal
Indore Institute of Science and Technology, Indore

IQAC

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

			4.8.4.5	Analyze the co-occurrence of data to find interesting frequent patterns and Preprocess the data before applying to any real-world problem and can evaluate its performance
			CO Avgerage	
44	IT805	Major Project-II	4.8.5.1	Learn about different software development process models and software engineering principles and develop an ability to apply them to software design of real life problems.
			4.8.5.2	Plan, analyze, design and implement a software project using programming languages like Java, ASP, PHP etc.
			4.8.5.3	Gain confidence at having conceptualized, designed and implemented a working major project with their team.
			4.8.5.4	Understand the fundamental principles of Software Project management & will also have a good knowledge of responsibilities of project manager and how to handle these.
			4.8.5.5	Be familiar with the different methods and techniques used for project management.

CO PO and PSO Mapping : Department of Information Technology

S. No.	Sub Code	Subject Name	CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
SEMESTER - III																		
1	ES-301	Energy & Environmental Engineering	2.3.1.1	3	2	3	2				3	2				3	2	1
			2.3.1.2	3	1		3	3								3	1	1
			2.3.1.3	3		2	1		3	3						3		1
			2.3.1.4	2	1	3		3	2							3	2	1
			2.3.1.5		3	2	3	3								2	2	1
			CO Avg	2.75	1.75	2.5	2.25	3	2.5	3	3	2				2.8	1.75	1
2	IT-302	Discrete Structure	2.3.2.1	2	2	3	2		1						1	2	3	1
			2.3.2.2	1			3									1	3	
			2.3.2.3	2		3										2	3	
			2.3.2.4	1		2			3					2		1	2	3
			2.3.2.5		3		2											
			CO Avg	1.5	2.5	2.67	2.33		2					2	1	1.5	2.75	2
3	IT-303	Data Structure	2.3.3.1	2	1	3			1						2	2	3	1
			2.3.3.2	2	1	2	3									2	3	
			2.3.3.3	1	2	2										1	2	
			2.3.3.4	1	2	3			2							1	3	2
			2.3.3.5	1	2	3										1	3	

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

			CO Avg	1.4	1.6	2.6	3	1	1.5						2	1.4	2.8	1.5
4	IT-304	Object Oriented Programming & Methodology	2.3.4.1	3	1	2										3	2	
			2.3.4.2	1		2	3		2							1	3	2
			2.3.4.3	1	2	1	3					1		3	2	2	3	1
			2.3.4.4	2	2	2	3		1			2		2	2	2	3	2
			2.3.4.5	1	2		2							2		1	2	
			CO Avg	1.6	1.75	1.75	2.75		1.5			1.5		2.33	2	1.8	2.6	1.67
5	IT-305	Digital Circuits & System	2.3.5.1	2	1	3	2					1		2		2	3	1
			2.3.5.2	1	2	2	3									1	3	
			2.3.5.3	2	2	3								2		2	3	
			2.3.5.4		3	2	1		2								3	2
			CO Avg	1.67	2	2.5	2		2			1		2		1.67	3	1.5
6	IT-306	JAVA Programming Lab	2.3.6.1	2	1	3	2									2	3	
			2.3.6.2	2		1	2							3		2	3	
			2.3.6.3	1	2	1	1					3				1	2	3
			2.3.6.4	1		3	2							2		1	3	
			2.3.6.5	1	2	3	2							1		1	3	
			CO Avg	1.4	1.67	2.2	1.8					3		2		1.4	2.8	3
7	BT-107	Evaluation of Internship-I completed at I year level	1.1.7.1				2			1	1	3	2	2	2	2	2	3
			1.1.7.2			1	2					3	3	2	1	1	2	3
			1.1.7.3		2	3						3	2	2			3	3
			1.1.7.4	1							2	3	2	3	1	1	3	3
			1.1.7.5							1	1	2	2	3	2	2	3	2
			CO Avg	1	2	2	2			1	1.33	2.8	2.2	2.4	1.5	1.5	2.6	2.8
SEMESTER - IV																		
9	BT-401	Mathematics-III	2.4.1.1		2	3	1	3									3	
			2.4.1.2		1	2	3					1		2	2	2	3	1
			2.4.1.3	1	2	1	2	3				2		2		1	3	2
			2.4.1.4	3	1	2	3		1			1				3	3	1
			2.4.1.5	1	2	3	2		2			1		3	1	1	3	2
			CO Avg	1.67	1.6	2.2	2.2	3	1.5			1.25		2.33	1.5	1.75	3	1.5
10	IT-402	Computer Architecture	2.4.2.1	2	1	2										2	2	
			2.4.2.2	1	2	3	1		2							1	3	2
			2.4.2.3		1	2						2		3			3	2
			2.4.2.4	2	3	2										2	3	

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

			2.4.2.5	2	2	3										2	3	
			CO Avg	1.75	1.8	2.4	1		2			2		3		1.75	2.8	2
11	IT-403	Analysis and Design of Algorithm	2.4.3.1	1	2	2	1					1		3		1	3	1
			2.4.3.2	1	1	2	3									1	3	
			2.4.3.3	2	1	1	2					3		2		2	2	3
			2.4.3.4	1	1	2	3					1		2	2	2	3	1
			2.4.3.5	1	2	1	3					2	1	1	2	2	3	2
			CO Avg	1.2	1.4	1.6	2.4					1.75	1	2	2	1.6	2.8	1.75
12	IT-404	Analog & Digital Communication	2.4.4.1	1	2	2	1						2			1	2	2
			2.4.4.2	2	3	2										2	3	
			2.4.4.3	1	2	2	3									1	3	
			2.4.4.4		2	2	3		2								3	2
			2.4.4.5		1	3						1		2			3	1
			CO Avg	1.33	2	2.2	2.33		2			1		2		1.33	2.8	1.67
13	IT-405	Data base Management System	2.4.5.1	2	2							2				2	2	2
			2.4.5.2	1	3	2					1	3				1	3	3
			2.4.5.3	2	3	2	3					2	1	3	1	2	3	2
			2.4.5.4	1	1	2	2					1		2		1	2	1
			2.4.5.5	1	2	3	3							2		1	3	
			2.4.5.6	2	1	2	3									2	3	
			CO Avg	1.4	2	2.2	2.75				1	2	1	2.33	1	1.4	2.8	2
14	IT-406	Introduction to Web Design	2.4.6.1	1	2	3						2				1	3	2
			2.4.6.2		1	3						1		3			3	1
			2.4.6.3	1	2	2			1			2		3	1	1	3	2
			2.4.6.4					2				1	2	1			2	2
			2.4.6.5	2	2						2	1	1	2		2	2	2
			CO Avg	1.33	1.75	2.67		2	1		2	1.4	1.5	2.25	1	1.33	2.6	1.8
15	IT-407	Open Source Software Lab (Linux and R)	2.4.7.1	2	3											2	3	
			2.4.7.2	1	2	1	3				1	1		2		1	3	1
			2.4.7.3	1	2	1						2	1	3		1	3	2
			2.4.7.4	2	2	1	3					1		2		2	3	1
			2.4.7.5	2	2	1						2		1	1	2	2	2
			CO Avg	1.6	2.2	1	3				1	1.5	1	2	1	1.6	2.8	1.5
SEMESTER - V																		
17			3.5.1.1	2	1	2	3				1	2				2	3	2

Indore Institute of Science and Technology IQAC INDORE

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

17	IT-501	Operating System	3.5.1.1	2	1	2	3				1	2				2	3	2
			3.5.1.2	1	2		2					2		2	1	1	2	2
			3.5.1.3	2	2		2					1				2	2	1
			3.5.1.4	2	2		3									2	3	
			3.5.1.5	1	2	1	2	2		1	2		3			1	3	2
			CO Avg	1.6	1.8	1.5	2.4	2		1	1.75		2.5	1		1.6	2.6	1.75
18	IT-502	Computer Network	3.5.2.1	3												3		
			3.5.2.2	3		1										3	1	
			3.5.2.3	3	1	2										3	2	
			3.5.2.4	3	2	2					1		1	2		3	2	1
			3.5.2.5	3	2	2	3							1		3	3	
			CO Avg	3	1.67	1.75	3				1		1	1.5		3	2	1
19	IT-503	Theory of Computation	3.5.3.1	2	1	2					1	2				2	2	2
			3.5.3.2	3			2									3	2	
			3.5.3.3	2	1	2	3									2	3	
			3.5.3.4	3	2						2	3	1			3	2	3
			3.5.3.5	2	1	3	1					2		1		2	3	2
			CO Avg	2.4	1.25	2.33	2				1.5	2.33	1	1		2.4	2.4	2.33
20	IT-504	Artificial Intelligence	3.5.4.1	3								2				3		2
			3.5.4.2	3	1						3					3	1	3
			3.5.4.3	3		2	3			1			3			3	3	1
			3.5.4.4	3							2	1	3	3		3	3	2
			CO Avg	3	1	2	3			1	2.5	1.5	3	3		3	2.33	2
21	IT-505	Advanced Java Lab	3.5.5.1	3	2											3	2	
			3.5.5.2	2		3					2	1	2			2	3	2
			3.5.5.3	3	2	2					1		3			3	3	1
			3.5.5.4	3	2											3	2	
			3.5.5.5	3	2	2	2			1	2	1	2	1		3	2	2
			CO Avg	2.8	2	2.33	2			1	1.67	1	2.33	1		2.8	2.4	1.67
22	IT-506	Soft Skills and Interpersonal Communication	3.5.6.1															
			3.5.6.2															
			3.5.6.3															
			3.5.6.4															
			3.5.6.5															
			CO Avg															
			3.5.7.1	3	1						2		2			3		

Indore Institute of Science and Technology IQAC INDORE

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

	IT-507	Evaluation of Internship-II	3.5.7.2	3	2		1					2		1		3	1	
			3.5.7.3	3			1									3	1	
			3.5.7.4	3	2		1					2		1		3	2	
			3.5.7.5	3	2								2	3	3	3	2	1
			CO Avg	3	2		1					2	2	2	3	3	2	1
24	IT-508	Minor Project- I	3.5.8.1	3	1	2	1	1				2	1	2	2	3	2	1
			3.5.8.2	3	2	2	3	2				1		3	2	3	1	1
			3.5.8.3	3	3	2	3	3	1			2	2	2	2	3	1	2
			CO Avg	3	2	2	2	2	1			2	2	2	2	3	1	1
SEMESTER - VI																			
25	IT-601	Computer Graphics & Multimedia	3.6.1.1	1	3	3	1									1	3	
			3.6.1.2	2	3	3	2									2	3	
			3.6.1.3	2	3	3	1									2	3	
			3.6.1.4	1	3	3	2									1	3	
			3.6.1.5	1	1	2	1									1	2	
			CO Avg	1.4	2.6	2.8	1.4									1.4	2.8	
26	IT-602	Wireless and Mobile Computing	3.6.2.1	3	2											3	2	
			3.6.2.2	2	2	3	3					1		2	1	2	3	1
			3.6.2.3	3		3										3	3	
			3.6.2.4	2	2	1	2					1	1			2	2	1
			3.6.2.5	3	1											3	1	
			CO Avg	2.6	1.75	2.33	2.5					1	1	2	1	2.6	2.2	1
27	IT-603	Compiler Design	3.6.3.1	3												3		
			3.6.3.2	3	3	2										3	3	
			3.6.3.3	3	3	2										3	3	
			3.6.3.4	3	3	2	2									3	3	
			3.6.3.5	3	3	2	2									3	3	
			CO Avg	3	3	2	2									3	3	
28	IT-604	Software Engineering	3.6.4.1	3	2											3	2	
			3.6.4.2	2	1	2	3									2	3	
			3.6.4.3	3	2	1					1	2	1	3		3	3	2
			3.6.4.4	3	1		2			1	1	3	2	3	1	3	3	3
			3.6.4.5	2		1	3						2	1	2	2	3	2
			CO Avg	2.6	1.5	1.33	2.67			1	1	2.5	1.67	2.33	1.5	2.6	2.8	2.33
29			3.6.5.1	1	3											1	3	

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

	IT-605	Programming in Python	3.6.5.2	3	3		1						1			3	3	1
			3.6.5.3	2	2		3									2	3	
			3.6.5.4	3	1	2	3				1	2	1	3		3	3	2
			3.6.5.5	2	2	1	2				1		1			2	2	1
			CO Avg	2.2	2.2	1.5	2.25				1	2	1	3		2.2	2.8	1.33
30	IT-606	Android Programming	3.6.6.1	2	1		1							1		2	1	
			3.6.6.2	2	1	3	3			1	2	1		2		2	3	2
			3.6.6.3	3	1	2						2		3	1	3	3	2
			3.6.6.4	3	2	2	3					3	1	2	1	3	3	3
			3.6.6.5	2	1	2	2									2	2	
			CO Avg	2.4	1.2	2.25	2.25			1	2	2	1	2	1	2.4	2.4	2.33
31	IT-607	Internship-III	3.6.7.1	3	1							2		2		3		
			3.6.7.2	3	2		1					2		1		3	1	
			3.6.7.3	3			1									3	1	
			3.6.7.4	3	2		1					2		1		3	2	
			3.6.7.5	3	2								2	3	3	3	2	1
			CO Avg	3	2		1					2	2	2	3	3	2	1
32	IT-608	Minor Project II	3.6.8.1	3	1	2	1	1				2	1	2	2	3	2	1
			3.6.8.2	3	2	2	3	2				1		3	2	3	1	1
			3.6.8.3	3	3	2	3	3	1			2	2	2	2	3	1	2
			CO Avg	3	2	2	2	2	1			2	2	2	2	3	1	1
SEMESTER - VII																		
33	IT-701	Soft Computing	4.7.1.1	3	1		2									3	2	
			4.7.1.2	2	1											2	1	
			4.7.1.3	3	2								1	2		3	2	1
			4.7.1.4	3			3					1	1	2	1	3	3	1
			4.7.1.5	3	1	2	3					3		3	1	3	3	3
			CO Avg	2.8	1.25	2	2.67					2	1	2.33	1	2.8	2.2	1.67
34	IT-702	Cloud Computing	4.7.2.1	3	1											3	1	
			4.7.2.2	3	1		3					2	2	3	1	3	3	2
			4.7.2.3	3	1		2					1		1		3	2	1
			4.7.2.4	3	2	2	3					3	2	3	1	3	3	3
			4.7.2.5	3	1	2	3	1				1	2	2	2	3	3	2
			CO Avg	3	1.2	2	2.75	1				1.75	2	2.25	1.33	3	2.4	2
35			4.7.3.1	3	1		2					2	1	3	1	3	3	2

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

	IT-703	Internet of Things	4.7.3.2	3	2		1					2		2	2	3	2	2
			4.7.3.3	3	3		2					1		3		3	3	1
			4.7.3.4	2	1		2	1					1	2	1	2	2	1
			4.7.3.5	3	2	2	2	1				3	2	3	2	3	3	3
			CO Avg	2.8	1.8	2	1.8	1				2	1.33	2.6	1.5	2.8	2.6	1.8
36	IT-704	Cloud Computing Lab	4.7.4.1	3	1		2	3				2		1		3	3	2
			4.7.4.2	3	2	3	1					1	1	3	1	3	3	1
			4.7.4.3	2	3		2					1	2	3		2	3	2
			4.7.4.4	3	2		3					2	1	2		3	3	2
			4.7.4.5	3	1		2							3	1	3	3	
			CO Avg	2.8	1.8	3	2	3				1.5	1.33	2.4	1	2.8	3	1.75
37	IT-706	Major Project-I	4.7.5.1	3	2	2	3	1			2	3	2	3	1	3	2	1
			4.7.5.2	3	2	3	3	2	2		1	3	2	2	3	3	2	3
			4.7.5.3	3	2	1	2	2				3	1	2	2	3	1	2
			4.7.5.4	3	1	2	3	2	1		2	2	2	1	2	3	2	2
			4.7.5.5	3	1	3	3	3	1		1	3	2	3	3	3	2	3
			CO Avg	3	2	2	3	2	1		2	3	2	2	2	3	2	2
38	IT-607	Evaluation of Internship -III	4.7.6.1	3	1							2		2		3		
			4.7.6.2	3	2		1					2		1		3	1	
			4.7.6.3	3			1									3	1	
			4.7.6.4	3	2		1					2		1		3	2	
			4.7.6.5	3	2								2	3	3	3	2	1
			CO Avg	3	2		1					2	2	2	3	3	2	1
SEMESTER - VIII																		
39	IT-801	Information Security	4.8.1.1	3	2						1	2		3		3	3	2
			4.8.1.2	3	1		1					3	2	3		3	3	3
			4.8.1.3	3	3		2					3		2		3	3	3
			4.8.1.4	3	2	2	2				1	2	1	3		3	3	2
			4.8.1.5	3	1	3										3	3	
			CO Avg	3	1.8	2.5	1.67				1	2.5	1.5	2.75		3	3	2.5
40	IT-802	Machine Learning	4.8.2.1	3	2											3	2	
			4.8.2.2	3	1		2					2		3	2	3	3	2
			4.8.2.3	3	1		3					1	1	1		3	3	1
			4.8.2.4	3	2	3	1					2		2		3	3	2
			4.8.2.5	3	3		2					3		2	2	3	3	3

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

			CO Avg	3	1.8	3	2	2				2	1	2	2	3	2.8	2
41	IT-803	Parallel Computing	4.8.3.1	3	2	2	2					1		2		3	2	1
			4.8.3.2	3	2	1						2	1	3	1	3	3	2
			4.8.3.3	3	1		1							2	1	3	2	
			4.8.3.4	3		3					1	1	1	3	1	3	3	1
			4.8.3.5	3		3	2					2		2	1	3	3	2
			CO Avg	3.0	1.7	2.3	1.7				1.0	1.5	1.0	2.4	1.0	3.0	2.6	1.5
42	IT-804	Machine Learning Lab	4.8.4.1	3	2											3	2	
			4.8.4.2	3	1		2					2		3	2	3	3	2
			4.8.4.3	3	1		3					1	1	1		3	3	1
			4.8.4.4	3	2	3	1					2		2		3	3	2
			4.8.4.5	3	3		2	2				3		2	2	3	3	3
			CO Avg	3	1.8	3	2	2				2	1	2	2	3	2.8	2
43	IT-805	Major Project-II	4.8.5.1	3	2	2	3	1			2	3	2	3	1	3	2	1
			4.8.5.2	3	2	3	3	2	2		1	3	2	2	3	3	2	3
			4.8.5.3	3	2	1	2	2				3	1	2	2	3	1	2
			4.8.5.4	3	1	2	3	2	1		2	2	2	1	2	3	2	2
			4.8.5.5	3	1	3	3	3	1		1	3	2	3	3	3	2	3
			CO Avg	3.0	1.6	2.2	2.8	2.0	1.3		1.5	2.8	1.8	2.2	2.2	3.0	1.8	2.2

Department of Internet of Things and Cyber Security including Block Chain Technology: Course Outcomes Descriptions:

S. No.	Univ. Subject Code	Subject Name	CO	CO Description
1	IS 301	Technical Communication	2.3.1.1	Understanding the process and scope of Communication, Relevance, & Importance of Communication in a Globalized world
			2.3.1.2	Learn about Verbal & Non-verbal Communication, Classification of NVC, Barriers to Communication, Communicating Globally, Culture and Communication
			2.3.1.3	Understand the value Audience-awareness, Voice, Vocabulary and Paralanguage, Group Discussion, Combating Nervousness, Speaking to one and to one thousand, Mock Presentations
			2.3.1.4	Preparing for interviews, assessing yourself, Drafting Effective Resume, Dress, decorum and Delivery techniques, Techniques

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

				of handling interviews, Use of Nonverbals during Interviews, Handling turbulence during interviews
			2.3.1.5	Aware about Basics of grammar, common error in writing and speaking, Study of advanced grammar, Vocabulary, Pronunciation Etiquette, Syllables, Vowel sounds, Consonant sounds, Tone
2	IS 302	Discrete Structure	2.3.2.1	Construct simple mathematical proofs and possess the ability to verify them.
			2.3.2.2	Specify and manipulate basic mathematical objects such as sets, functions, and relations and will also be able to verify simple mathematical properties that these objects possess.
			2.3.2.3	skillful in expressing mathematical properties formally via the formal language of propositional logic and predicate logic.
			2.3.2.4	Acquire ability to describe computing problems with the help of graph theory and Finite state machines, also express its utility in solving and modeling real time problems.
			2.3.2.5	Apply basic counting techniques to solve combinatorial problem.
			CO Avgerage	
3	IS 303	Data Structure	2.3.3.1	Ability to analyze algorithms and algorithm correctness.
			2.3.3.2	Ability to summarize the use of stack and queue in real life applications.
			2.3.3.3	Ability to describe the use of tree.
			2.3.3.4	Ability to have knowledge of graphs concepts.
			2.3.3.5	Ability to summarize searching, sorting and hashing techniques.
			CO Avgerage	
4	IS 304	Introduction to Information Security	2.3.4.1	Understand key terms and concepts in information security and Cryptography and evaluate the cyber security needs of an organization
			2.3.4.2	Acquire knowledge to secure computer systems, protect personal data, and secure computer networks in an organization
			2.3.4.3	Apply knowledge of various encryption algorithms and authentication mechanisms to secure information in computer systems and networks
			2.3.4.4	Understand principles of web security to secure network by monitoring and analyzing the nature of attacks and design/develop security architecture for an organization.
			2.3.4.5	Design operational and strategic information security strategies and policies.
			CO Avgerage	
5	IS305		2.3.5.1	Understand the concept of number systems & binary arithmetic.

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

		Object Oriented Programming & Methodology	2.3.5.2	To study the boolean algebra and minimization of switching function.
			2.3.5.3	Understand logic gates, universal gate, adders & subtractors.
			2.3.5.4	Demonstrate linear wave shaping circuits, logic families, multiplexers and memory.
			2.3.5.5	Understand basic digital communication system.
			CO Avgerage	
6	IS306	Computer Workshop: Python	2.3.6.1	Student should be able to understand the basic concepts scripting and the contributions of scripting language
			2.3.6.2	Examine the core data structures like lists, dictionaries, tuples and sets in Python to store, process and sort the data.
			2.3.6.3	Identify the external modules and import specific methods form them
			2.3.6.4	Create, run and manipulate Python Programs using core data structures like Lists, Dictionaries and use Regular Expressions
			2.3.6.5	Interpret the concepts of GUI and WEB Programming as used in Python
			CO Avgerage	
7	BT107	Evaluation of Internship-I completed at I year level	1.1.7.1	To display the utility of information and talent units obtained from the path and place of business withinside the assigned task function.
			1.1.7.2	Solve actual existence demanding situations withinside the path via way of means of analysing the area and choosing suitable ability units obtained from the path.
			1.1.7.3	Exhibit important questioning and hassle fixing talents via way of means of analysing underlying issues to challenges.
			1.1.7.4	Demonstrate the capacity to harness assets with the aid of using analysing demanding situations and thinking about opportunities.
			1.1.7.5	Articulate profession alternatives via way of means of thinking about possibilities in company, sector, industry, expert and academic advancement.
9	IS401	Probability, Statistics and Linear Algebra	2.4.1.1	Understand mathematical tools for the numerical solutions algebraic and transcendental equations.
			2.4.1.2	Describe mathematical knowledge to understand laplace transformation, inverse laplace transformation and fourier transform which are used in various branches of engineering.
			2.4.1.3	Work with mathematical tools available in statistics needed in various field of science and engineering.
			2.4.1.4	Fulfill the needs of engineers to understand applications of numerical analysis, transform calculus and statistical techniques in order to acquire mathematical knowledge.
			2.4.1.5	Solve wide range of practical problems appearing in different sections of science and engineering.
			CO Average	

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

10	IS402	Fundamentals of IOT	2.4.2.1	Understand Internet of Things and its hardware and software components.
			2.4.2.2	Interface I/O devices, sensors & communication modules.
			2.4.2.3	Analyze data from various sources in real-time and take necessary actions in an intelligent fashion.
			2.4.2.4	Remotely monitor data and control devices.
			2.4.2.5	Develop real life IoT based projects.
			CO Avgerage	
11	IS403	Operating Systems	2.4.3.1	Explain the role of operating system and its management policies and algorithm.
			2.4.3.2	Identify the process management policies and analyze and compare scheduling of processes by CPU along with memory management.
			2.4.3.3	Identify process synchronization and coordination handled by operating system
			2.4.3.4	Understand concepts of memory management including virtual memory
			2.4.3.5	Understand issues related to file system interface and implementation, disk management and Summarize the introduction to network, multiprocessor and distributed OS, and Elaborate on case studies for the same.
12	IS404	Computer Organization& Architecture	2.4.4.1	Differentiate Analog and Digital Signal and types of signals.
			2.4.4.2	Understand the communication of information over the communication channel.
			2.4.4.3	Understand how information signal of low frequency can be transmitted with the help of modulation techniques over a long distance.
			2.4.4.4	Differentiate different modulation techniques such as AM, SSB, DSB and FM.
			2.4.4.5	Explain using block diagrams, modulation and demodulation techniques for digital signal and determine bandwidth requirement.
13	IS405	Computer Network	2.4.5.1	Characterise and appreciate computer networks from the viewpoint of components and from the viewpoint of services.
			2.4.5.2	Display good understanding of the flow of a protocol in general and a network protocol in particular.
			2.4.5.3	Model a problem or situation in terms of layering consent and map it to the TCP/IP stack.
			2.4.5.4	Select the most suitable application layer protocol such as (HTTP, STTP, SMTP, DNS bit torrent) and as per the requirements of the network application and work with available tools to demonstrate the working of these protocols.
			2.4.5.5	Design a reliable data transfer protocol and incrementally and develop solutions for the requirements of transport layer.

Indore Institute of Science and Technology IQAC INDORE

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

14	IS406	Java Lab	2.4.6.1	Understand the concepts of Java programming.
			2.4.6.2	Understand fundamentals of programming such as variables, conditional and iterative execution, methods, etc.
			2.4.6.3	Understand fundamentals of object-oriented programming in Java and be familiar of the important concepts like class, inheritance and multithreading, AWT and JDBC.
			2.4.6.4	Use the Java SDK environment to create, debug and run Java programs.
			2.4.6.5	Develop Java applet.

Department of Mechanical Engineering : Course Descriptions

Sub Code	Subject Name	CO Description
BT-201	Engineering Physics	The Coursework is designed to provide students the opportunity to learn key concepts of Wave nature of particles and the Schrodinger equation.
		Student will able to understand the knowledge of Wave optics i.e. interference and diffraction.
		To introduce the idea of solids like semiconductors (P type and N Type semiconductors), Diodes and Hall effect. STudents will also be able to understand the basic concept of superconductivity.
		To develop the understanding of Lasers, fiber optics and their applications in field of engineering sciences.
		To provide you to basic understanding of Electrostatics in vacuum.
BT-102	Mathematics-I	To introduce the fallouts of Rolle's Theorem that is fundamental to application of analysis to Engineering problems.
		To introduce the idea of applying differential and integral calculus to notions of curvature and to improper integrals. Apart from some applications it gives a basic introduction on Beta and Gamma function
		To develop the tool of power series and Fourier series for learning advanced Engineering Mathematics.
		To familiarize the student with functions of several variables that is essential in most branches of engineering
		To develop the essential tool of matrices and linear algebra in a comprehensive manner.
BT-203		Understand the properties of material, stress strain. Properties of alloys and cast iron.

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

	Basic Mechanical Engineering	Understand the concept measurement and machine tools their operations and their applications.
		Understand the concept of fluid flow , properties of fluid, Bernoulli's equation, Pascal's law.
		To Understand the concept of heat and temperature, law of thermodynamics, boilers and their mountings and accessories, basic Refrigeration cycles and its applications.
		To Understand the working of different cycles and 4 strokes, 2 stroke engines and their applications.
BT-204	Basic Civil Engineering & Mechanics	Students will acquire the basic knowledge in different fields of civil engineering and materials used in construction.
		Gain the ability to use modern survey equipment to measure angles and distances.
		Students will understand the basic of contour lines and map
		Students will have the ability to identify, formulate and solve engineering problems related to Engineering Mechanics: Statics
		Students will be able to analyse beam for shear force and bending moment.
BT-205	Basic Computer Engineering	Able to understand the basic applications of computers in various fields, describe operating system, its role and functionalities and to apply concepts of MS word, MS power point, MS Excelefficiently.
		Discuss and apply simple algorithms for arithmetic and logical problems.
		Translate the algorithms to programs applyingobject-oriented concepts in C++ programming language.
		Understand basics of computer networks, OSI layers and protocols, E commerce applications, impact of securitythreats and attacks on networking systems and also security measures
		Understand the different method for representing and processing data and to get awareness about the impact of cloud computing, its various type of services.
BT-206	Language Lab & Seminars	learners to develop good listening skills.
		Encourages learner to talk freely and lose their shyness when talking in front of the people
		To develop the overall personality of the students by the practical activities
		Helps in confidence building, motivation to be more presentable and help in removing the stage fright
		Develops speaking, writing, reading, listening and presentation skills.

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

BT-101	Engineering Chemistry	Differentiate hard and soft water; solve the related numerical problems on water purification and its significance in industry and daily life.
		Select the lubricant for various purposes based on the type of Machines.
		Equipped with basic knowledge of polymer , methods of
		polymerization and various industrial applications of polymers
		Draw the Phase diagrams of one & two component systems and causes, consequences and methods to minimize corrosion to improve industrial designs.
		Identify the structure of unknown/new compounds with the help of spectroscopy and understand periodic properties such as ionization potential, oxidation states and electro negativity
BT-202	Mathematics-II	To introduce effective mathematical tools for the solutions of ordinary and partial differential equations that model physical processes.
		To introduce the tools of differentiation and integration of functions of complex variable those are used in various techniques dealing engineering problems.
		To acquaint the student with mathematical tools available in vector calculus needed various field of science and engineering.
BT-103	English for Communication	Effective use of verbal and non-verbal communication for enhanced soft skill beside enhanced reading comprehension as well
		Write the different kinds of letters, reports and technical writing.
		Apply basic rules of grammar in both written as well as oral communication.
BT-104	Basic Electrical & Electronics Engineering	To introduce the concept of Basics of DC electrical Network including network theorems.
		To introduce the concept of Basics of AC electrical Network(single phase & 3 phase)..
		To study of law of Electromagnetism, introduction of transformer.
		To study of various electrical Machines.
		To study Basic Concept Digital Electronics.
BT-105	Engineering Graphics	Draw various types of scales, and curves.
		Draw orthographic projections of points & lines
		Draw orthographic projections of Planes & Solids
		Draw sections and development of solids including cylinders, cones, prisms and pyramids.
		Draw isometric views of Planes and Solids, Drawing using AUTOCAD.
BT-106		Use hand and power tools for different manufacturing processes

IQAC

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

	Manufacturing Practices	Operate machine tools while preparing any component
		Select the appropriate tools required for specific operation.
		Comprehend the safety measures required to be taken while using the tools.
		Prepare Foundry, Fitting, Carpentry, Welding and smithy Job.
BT-107	Internship-I (60 Hrs Duration) at the Institute level	Demonstrate the application of knowledge and skill sets acquired from the course and workplace in the assigned job function/s
		Solve real life challenges in the workplace by analysing work environment and conditions, and selecting appropriate skill sets acquired from the course
		Exhibit critical thinking and problem solving skills by analysing underlying issue/s to challenges
		Demonstrate appreciation and respect for diverse groups of professionals by engaging harmoniously with different company stakeholders
		Exhibit professional ethics by displaying positive disposition during internship
BT-108	Swachh Bharat Summer Internship Unnat Bharat Abhiyan (100Hrs)/ Rural Outreach	This course is to sensitize students about the socio-cultural aspects of the rural areas parochial to their colleges.
		Students are expected to observe, investigate and learn about the following aspects of the rural region: i. Demographics, Literacy, Geographical parameters of the Village; ii. Schemes of government of India and State of Madhya Pradesh in operation in the villages.
		To enhance critical thinking by making them participate in social activities and imbibe human values among them.
		Rural Swachh Bharat Abhiyan is to promote cleanliness and develop healthy habits in people in villages.
		Unnat Bharat Abhiyan: To build an understanding of the development agenda within institutes of Higher Education and an institutional capacity and training relevant to national needs, especially those of rural India.
BT 301	Mathematics-III	To determine the root finding techniques which can be used to solve practical engineering problems also demonstrate the use of interpolation methods to find intermediate values in given graphical and/or tabulated data.
		Apply the concept of numerical analysis to find the relative strengths and weaknesses of each computation method and know which are most applicable for given problem also will be able to approximate and analysis the errors obtained in the numerical solution of equations, ordinary, partial differential equations and simultaneous equations as well.

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

		To apply the analytical technique to express periodic function as a Fourier series and acquire the concepts of Laplace transformation & inverse Laplace Transform with its property
		To solve Partial Differential equation and Ordinary Differential Equation with given boundary conditions which is helpful in all engineering & research work.
		Apply the concept of a random variable, probability distribution and their application in diversified fields.
ME302	Thermodynamics	Apply conservation principles (mass and energy) to evaluate the performance of simple engineering systems and cycles
		Evaluate thermodynamic properties of simple homogeneous substances
		Analyze processes and cycles using the second law of thermodynamics to determine maximum efficiency and performance
		Discuss the physical relevance of the numerical values for the solutions to specific engineering problems
		Critically evaluate the validity of the numerical solutions for specific engineering problems
ME303	Materials Technology	Understand the crystal structure and classification of materials.
		Understand methods of determining mechanical properties and their suitability for applications.
		Understand Mechanical behavior of metals and alloys, Tensile & compressive stress-strain
		Understand Iron carbon diagram, time temperature transformation etc.
		Understand Non destructive testing, alloty study with heat treatment process.
ME304	Strength of Material	To define direct normal stress and direct shear stress and compute their values.
		able to calculate shear stress distribution in solid and hollow round members under Torsional loading conditions.
		Able to calculate bending stress and shear stress at any location along the beam. Calculate maximum bending stress and maximum shear stress.
		Able to use different theories of failure in different loading condition
		able to develop an understanding of analytic methods used in connection with the structural design of columns, long mechanical members under compression.
ME305	Manufacturing Process	Students will be able to understand concepts of casting Technology.
		Students will be able to understand mechanical working of metals.
		Students will be able to understand concepts of welding process

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

		Students will be able to understand concept of forging methods
		Students will be able to understand press working .
ME306	Thermal Engg Lab	To study the working of different types of high pressure boilers.
		To calculate different performance parameters of boilers.
		To determine volumetric and isothermal efficiencies of a reciprocating air compressor.
		To study the working of different types of steam condensors.
		To analyse the exhaust gas using ORSAT apparatus.
BT107	Evaluation of Internship-I Completed at First Year Level	Demonstrate the application of knowledge and skill sets acquired from the course and workplace in the assigned job function/s
		Solve real life challenges in the workplace by analysing work environment and conditions, and selecting appropriate skill sets acquired from the course
		Exhibit critical thinking and problem solving skills by analysing underlying issue/s to challenges
		Demonstrate appreciation and respect for diverse groups of professionals by engaging harmoniously with different company stakeholders
		Exhibit professional ethics by displaying positive disposition during internship
ES401	ENERGY & ENVIRONMENTAL ENGINEERING	To learn about various types of energy resources.
		To learn about Ecosystem.
		To learn about Biodiversity and its conservation.
		To learn about Causes, Effects and Control of Environmental Pollution.
		To learn about various social issues w.r.t. environment.
ME402	INSTRUMENTATION & CONTROL	To learn about different types of Instrument Systems & Measurement Techniques.
		To know about various characteristics of measuring instrument.
		To learn about measurement of different physical quantities like Temperature, Flow, Velocity & Pressure
		To learn about different mechanical measurement devices.
		To know about different types of control systems.
ME403	THEORY OF MACHINES	To introduce the approaches used in kinematic and dynamic analysis of machinery.
		To understand the various four bar mechanisms and applications.
		To understand various types of gear and gear trains.
		To understand Cam & folloers working.
		To give basic knowledge on mechanical vibrations.

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

ME404	FLUID MECHANICS	To understand the Newton's law of viscosity and able to explain the mechanics of fluids at rest and in motion by observing the fluid phenomena.
		Compute force of buoyancy on a partially or fully submerged body and able to analyze the stability of a floating body.
		To understand Euler's Equation of motion and Deduce Bernoulli's equation.
		To find energy losses in pipe transitions and to draw energy gradient lines.
		Evaluate pressure drop in pipe flow using Hagen-Poiseuille's equation for laminar flow in a pipe and distinguish the types of flows and Determine sonic velocity in a fluid.
ME405	MANUFACTURING TECHNOLOGY	Upon completion of this course, the students will be able to understand and compare the functions and applications of different metal cutting tools
		Understand the basic concepts of gear machining
		Understand the basic concepts of plastics and molding method
		Understand the basic concepts of NTM
		The student will be able to write the programming to control and operate NC machines
ME406	SOFTWARE LAB	To introduce different drawing softwares to students.
		To learn about Surface modelling its design & implemntation in engineering applications.
		To know about current developments in CAD.
		To learn about Solid modeling & its applications.
		To know about strategic plan of CAD system design.
ME407	90 hrs Internship based on using various software's – Internship -II	Exposure to Organizational skills and professional practices.
		Efficiently completing tasks, fostering good relationship with seniors and subordinates
		Improved Communication & interpersonal skills.
		Exposure to latest technology applications to the specific discipline.
		Identification of relevant problems in the industry and innovative solutions.
ME 501	Internal Combustion Engines	To understand different types, parts and working of IC Engines.
		To learn in details the combustion process in Petrol Engines.
		To learn in details the combustion process in DieselEngines.
		To learn about different types of fuels and their properties used in IC Engines.
		To know about the concepts of Supercarging & Turbocharging of IC Engines

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

ME502	Mechanical Vibrations	Understand the causes and effects of vibration in mechanical systems.
		Develop schematic models for physical systems and formulate governing equations of motion.
		Understand the role of damping, stiffness and inertia in mechanical systems
		Analyze rotating and reciprocating systems and compute critical speeds.
		Analyze and design machine supporting structures, vibration isolators and absorbers.
ME503(B)	Dynamics of Machines	To design and analyze the fundamental knowledge of dynamics of machines so that student can appreciate solve problems of dynamic force balance and transmissibility of forces.
		To calculate the balancing mass with analytical and graphical methods for rotary and reciprocating masses.
		To develop understanding of governor mechanism and its significance on engineering design.
		To develop understanding of dynamic balancing, flywheel analysis, gyroscopic forces and moments.
		To Draw Turning moment diagram for different internal combustion engine and able to design
ME504 (A)	Industrial Engineering & Ergonomics	Able to use the Charts to record the activities of the people, materials and equipment to find alternative methods which minimize waste and to implement the best method.
		Able to apply the knowledge to eliminate unproductive activities under the control of the management, supervisor, worker and the design of products and processes
		Able to implement &use the various job evaluation and incentive scheme for the smooth working of the workforce in industry.
		To Apply ergonomic concept to improve working conditions in various industrial environments.
		To estimate information associated with control display systems using information processing theory. Students will be able to evaluate audio, visual and tactile displays.
ME505	FEM/CFD	Understand the concepts behind formulation methods in FEM.
		Identify the application and characteristics of FEA elements
		To develop an understanding for the major theories, approaches and methodologies used in CFD
		Develop element characteristic equation and generation of global equation.

Indore Institute of Science and Technology IQAC INDORE

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

		Able to apply suitable boundary conditions to a global equation for bars, trusses, beams,
		circular shafts, heat transfer, fluid flow, axi symmetric and dynamic problems and solve them
		displacements, stress and strains induced.
ME506	Python	Basic understanding of python and installation
		understand the concept of control statement
		Understanding of searching algorithm
		Underatading of sorting algorithm
		Underatading of file handling
ME507	Evaluation of Internship II	Demonstrate the application of knowledge and skill sets acquired from the course and workplace in the assigned job function/s
		Solve real life challenges in the workplace by analysing work environment and conditions, and selecting appropriate skill sets acquired from the course
		Exhibit critical thinking and problem solving skills by analysing underlying issue/s to challenges
		Demonstrate appreciation and respect for diverse groups of professionals by engaging harmoniously with different company stakeholders
		Exhibit professional ethics by displaying positive disposition during internship
ME508	Minor Project	Identify a topic in advanced areas of Mechanical Engineering.
		Review literature to identify gaps and define objectives & scope of the work.
		Generate and implement innovative ideas for social benefit.
		Develop a prototypes/models, experimental set-up and software systems necessary to meet the objectives.
		Analyze the ruslts and evaluate the performance.
ME601	THERMAL ENGINEERING AND GAS DYNAMICS	To understand the working of high pressure boiler.
		To understand the vapour power cycles applied on thermal power plant.
		To understand the concepts of gas dynamics.
		To understand the working of reciprocating air compressor.
		Analyze the flow through varing area ducts with friction and heat transfer.
ME602	MACHINE COMPONENT DESIGN	Able to explain the theory behind the different phases of design process.
		Apply knowledge to design basic elements shaft, keys and couplings.
		Apply knowledge to design springs and power screws.
		Design clutches and brakes depending on need.

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

		Design and analyze rolling contact or journal bearing.
ME603(A)	DEPARTMENT ELECTIVE (Turbo-Machinery)	Apply thermodynamic concepts to analyze turbo machines
		Analyze impulse and reaction steam turbo machines for energy transfer.
		Analyze hydro turbo machines for energy transfer.
		Analyze different types of fans, blowers and compressors for energy transfer.
		General theory and working of different power transmitting turbo machines.
ME604(C)	OPEN ELECTIVE (Renewable Energy Technology)	To explain in detail about solar energy & its utilization.
		To explain in detail about wind energy & its utilization.
		To learn about production and application of Biomass.
		To understand different types, parts and working of Hydro Power Systems.
		To explain in detail about geo thermal energy & its utilization.
ME605	CAD LAB	Understand geometric transformation techniques in CAD.
		Develop models to represent curves and surfaces.
		Develop programs to manufacture industrial components
		Devlopment of 3d part nd part
		Simulation study
ME606	RDBMS	To learn about normalization and its different forms.
		To learn about query processing & optimization technique.
		To understand the usage of backup recovery feature of database.
		Study and usage of object or object oriented relational database management software (Oracle).
		Creating and use web database in PHP
ME607	INTERNSHIP III	Exposure to Organizational skills and professional practices.
		Efficiently completing tasks, fostering good relationship with seniors and subordinates
		Improved Communication & interpersonal skills.
		Exposure to latest technology applications to the specific discipline.
		Identification of relevant problems in the industry and innovative solutions.
ME608	MINOR PROJECT II	Identify problem in area of Mechanical Engineering which requires further investigation.
		Identify the methods and materials required for the project work.
		Manage the work with team members.
		Formulate and implement innovative ideas for social and environmental benefits.

Indore Institute of Science and Technology IQAC INDORE

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

		Analyze the results to come out with solutions related to the project work.
ME701	Heat and Mass Transfer	Know about the basic concept of heat transfer and its modes. Mechanism of Steady State Conduction.
		Learn about the Transient Heat Conduction and its applications.
		Learn about Convective Heat Transfer.
		Understand the working principle and types of heat exchangers. And learn about Boiling & Condensation.
		Understand the concept of Radiative Heat Transfer, mass transfer.
ME702 D	DEPARTMENTAL ELECTIVE Advance Machine Design	Understand the concept of belt, chain and rope drive and their design process
		Able to design spur and helical gears.
		Able to design of bevel gears.
		Able to design I C engine components such as pystion, cylinder and connecting rod
		Able to design componets like joints, couplings, pressure vessels and power screw.
ME703A	OPEN ELECTIVE Operation Research and Supply Chain	Formulate and solve linear programming problems
		Determine optimum solution to transportation problem
		Determine average queue length and waiting times of queuing models.
		Determine optimum inventory and cost in inventory models.
		Understand the decision phases and apply competitive & supply chain strategies
ME704	CAD/CAM/CIM	Students will be able to produce CAD drawings which communicate the appropriate manufacturing details, standards, and specifications
		Students will be able to generate NC code using G-codes & M-codes to machine parts to
		specifications.
		Students will be able to set-up, program, and operate CNC milling and turning
		equipment
		Students will be able to Design Flexible manufacturing cell after carrying out Group technology study and finally creating FMS.
		Students will be able to apply knowledge about Computer Aided Quality control and Process Planning Control.
ME705	MATLAB and R Programming	To introduce MATLAB & R.
		Download & Installation of MATLAB & R.
		In detail explanation of various MATLAB commands and functions.
		In detail explanation of various R commands and functions.

Indore Institute of Science and Technology IQAC INDORE

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

		Examples & Case Studies on MATLAB & R Programming.
ME706	Major Project-I	Identify problem in area of Mechanical Engineering which requires further investigation.
		Identify the methods and materials required for the project work.
		Manage the work with team members.
		Formulate and implement innovative ideas for social and environmental benefits.
		Analyze the results to come out with solutions related to the project work.
ME607	Evaluation of Internship -III	Demonstrate the application of knowledge and skill sets acquired from the course and workplace in the assigned job function/s
		Solve real life challenges in the workplace by analysing work environment and conditions, and selecting appropriate skill sets acquired from the course
		Exhibit critical thinking and problem solving skills by analysing underlying issue/s to challenges
		Demonstrate appreciation and respect for diverse groups of professionals by engaging harmoniously with different company stakeholders
		Exhibit professional ethics by displaying positive disposition during internship
ME801	REFRIGERATION AND AIR CONDITIONING	Illustrate the fundamental principles and applications of refrigeration and air conditioning system
		Obtain cooling capacity and coefficient of performance by conducting test on vapour compression refrigeration systems and ice plant
		Present the properties, applications and environmental issues of different refrigerants
		Calculate cooling load for air conditioning systems used for various conditions
		Operate and analyse the refrigeration and air conditioning systems.
ME802A	DEPARTMENTAL ELECTIVE (AUTOMOBILE ENGINEERING)	Explain in detail about Chassis systems of an Automobile.
		Explain in detail about steering systems of an Automobile.
		Explain in detail about transmission systems of an Automobile.
		Explain in detail about suspension systems of an Automobile.
		Explain in detail about Electrical, control systems and emission standards of an Automobile.
ME803C	OPEN ELECTIVE (ENTREPRENEURSHIP &	To learn about different system concepts.
		To learn about different management concepts.
		To learn about different marketing concepts.
		To know about basics of productivity & operations.

Principal
Indore Institute of Science and Technology, Indore

	MANAGEMENT CONCEPTS)	To explain in detail Entrepreneurship.
ME804	SIMULATION & MODELING LAB	To understand the concepts of modelling.
		To understand the concepts of simulation.
		To model mechanical components using CATIA.
		To model mechanical components using ANSYS.
		To analyze modelled component using ANSYS.
ME805	MAJOR PROJECT II	Identify methods and materials to carry out experiments/develop code.
		Reorganize the procedures with a concern for society, environment and ethics.
		Analyze and discuss the results to draw valid conclusions.
		Prepare a report as per recommended format and defend the work.
		Explore the possibility of publishing papers in peer reviewed journals/conference proceedings.

Department of Civil Engineering : Course Outcomes Descriptions:

Sub Code	Subject Name	CO Discription
BT-201	Engineering Physics	The Coursework is designed to provide students the opportunity to learn key concepts of Wave nature of particles and the Schrodinger equation.
		Student will able to understand the knowledge of Wave optics i.e. interference and diffraction.
		To introduce the idea of solids like semiconductors (P type and N Type semiconductors), Diodes and Hall effect. STudents will also be able to understand the basic concept of superconductivity.
		To develop the understanding of Lasers, fiber optics and their applications in field of engineering sciences.
		To provide you to basic understanding of Electrostatics in vacuum.
BT-102	Mathematics-I	To introduce the fallouts of Rolle's Theorem that is fundamental to application of analysis to Engineering problems.
		To introduce the idea of applying differential and integral calculus to notions of curvature and to improper integrals. Apart from some applications it gives a basic introduction on Beta and Gamma function

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

		To develop the tool of power series and Fourier series for learning advanced Engineering Mathematics.
		To familiarize the student with functions of several variables that is essential in most branches of engineering
		To develop the essential tool of matrices and linear algebra in a comprehensive manner.
BT-203	Basic Mechanical Engineering	Understand the properties of material, stress strain. Properties of alloys and cast iron.
		Understand the concept measurement and machine tools their operations and their applications.
		Understand the concept of fluid flow , properties of fluid, Bernoulli's equation, Pascal's law.
		To Understand the concept of heat and temperature, law of thermodynamics, boilers and their mountings and accessories, basic Refrigeration cycles and its applications.
		To Understand the working of different cycles and 4 strokes, 2 stroke engines and their applications.
BT-204	Basic Civil Engineering & Mechanics	Students will acquire the basic knowledge in different fields of civil engineering and materials used in construction.
		Gain the ability to use modern survey equipment to measure angles and distances.
		Students will understand the basic of contour lines and map
		Students will have the ability to identify, formulate and solve engineering problems related to Engineering Mechanics: Statics
		Students will be able to analyse beam for shear force and bending moment.

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

BT-205	Basic Computer Engineering	Able to understand the basic applications of computers in various fields, describe operating system, its role and functionalities and to apply concepts of MS word, MS power point, MS Excelefficiently.
		Discuss and apply simple algorithms for arithmetic and logical problems.
		Translate the algorithms to programs applyingobject-oriented concepts in C++ programming language.
		Understand basics of computer networks, OSI layers and protocols, E commerce applications, impact of securitythreats and attacks on networking systems and also security measures
		Understand the different method for representing and processing data and to get awareness about the impact of cloud computing, its various type of services.
BT-206	Language Lab & Seminars	learners to develop good listening skills.
		Encourages learner to talk freely and lose their shyness when talking in front of the people
		To develop the overall personality of the students by the practical activities
		Helps in confidence building, motivation to be more presentable and help in removing the stage fright
		Develops speaking, writing, reading, listening and presentation skills.
BT-101	Engineering Chemistry	Differentiate hard and soft water; solve the related numerical problems on water purification and its significance in industry and daily life.
		Select the lubricant for various purposes based on the type of
		Machines.
		Equipped with basic knowledge of polymer , methods of

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

		polymerization and various industrial applications of polymers
		Draw the Phase diagrams of one & two component systems and causes, consequences and methods to minimize corrosion to improve industrial designs.
		Identify the structure of unknown/new compounds with the help of spectroscopy and understand periodic properties such as ionization potential, oxidation states and electro negativity
BT-202	Mathematics-II	To introduce effective mathematical tools for the solutions of ordinary and partial differential equations that model physical processes.
		To introduce the tools of differentiation and integration of functions of complex variable those are used in various techniques dealing engineering problems.
		To acquaint the student with mathematical tools available in vector calculus needed various field of science and engineering.
BT-103	English for Communication	Effective use of verbal and non-verbal communication for enhanced soft skill beside enhanced reading comprehension as well
		Write the different kinds of letters, reports and technical writing.
		Apply basic rules of grammar in both written as well as oral communication.
BT-104	Basic Electrical & Electronics Engineering	To introduce the concept of Basics of DC electrical Network including network theorems.
		To introduce the concept of Basics of AC electrical Network(single phase & 3 phase)..
		To study of law of Electromagnetism, introduction of transformer.

Indore Institute of Science & Technology IQAC INDORE

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

		To study of various electrical Machines.
		To study Basic Concept Digital Electronics.
BT-105	Engineering Graphics	Draw various types of scales, and curves.
		Draw orthographic projections of points & lines
		Draw orthographic projections of Planes & Solids
		Draw sections and development of solids including cylinders, cones, prisms and pyramids.
		Draw isometric views of Planes and Solids, Drawing using AUTOCAD.
BT-106	Manufacturing Practices	Use hand and power tools for different manufacturing processes
		Operate machine tools while preparing any component
		Select the appropriate tools required for specific operation.
		Comprehend the safety measures required to be taken while using the tools.
		Prepare Foundry, Fitting, Carpentry, Welding and smithy Job.
BT-107	Internship-I (60 Hrs Duration) at the Institute level	Demonstrate the application of knowledge and skill sets acquired from the course and workplace in the assigned job function/s
		Solve real life challenges in the workplace by analysing work environment and conditions, and selecting appropriate skill sets acquired from the course
		Exhibit critical thinking and problem solving skills by analysing underlying issue/s to challenges
		Demonstrate appreciation and respect for diverse groups of professionals by engaging harmoniously with different company stakeholders

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

		Exhibit professional ethics by displaying positive disposition during internship
BT-108	Swachh Bharat Summer Internship Unnat Bharat Abhiyan (100Hrs)/ Rural Outreach	This course is to sensitize students about the socio-cultural aspects of the rural areas parochial to their colleges.
		Students are expected to observe, investigate and learn about the following aspects of the rural region: i. Demographics, Literacy, Geographical parameters of the Village; ii. Schemes of government of India and State of Madhya Pradesh in operation in the villages.
		To enhance critical thinking by making them participate in social activities and imbibe human values among them.
		Rural Swachh Bharat Abhiyan is to promote cleanliness and develop healthy habits in people in villages.
		Unnat Bharat Abhiyan: To build an understanding of the development agenda within institutes of Higher Education and an institutional capacity and training relevant to national needs, especially those of rural India.
BT301	Mathematics-III	To determine the root finding techniques which can be used to solve practical engineering problems also demonstrate the use of interpolation methods to find intermediate values in given graphical and/or tabulated data.
		Apply the concept of numerical analysis to find the relative strengths and weaknesses of each computation method and know which are most applicable for given problem also will be able to approximate and analysis the errors obtained in the numerical solution of equations, ordinary, partial differential equations and simultaneous equations as well.

Indore Institute of Science and Technology IQAC INDORE

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

		To apply the analytical technique to express periodic function as a Fourier series and acquire the concepts of Laplace transformation & inverse Laplace Transform with its property to solve Partial Differential equation and Ordinary Differential Equation with given boundary conditions which is helpful in all engineering & research work.
		Apply the concept of a random variable, probability distribution and their application in diversified fields.
CE302	Construction Material	Understand the characteristics, occurrence, classification, uses of the various conventional building materials.
		Understand the characteristics, classification, uses and defects of the various other useful building materials.
		Understand basic knowledge of types of floors and roofs and also the basic flooring and roofing material. Get the knowledge about the types of pipes using in sanitary works.
		Understand basic concepts of different types of paints and varnishes including composition, application on the different type of surfaces and types.
		Understand the characteristics, occurrence, classification, uses of the Miscellaneous building materials.
CE303	Surveying	To introduce the principle of surveying and also impart awareness on the various fields of surveying and types of instruments.
		To understand the various methods of surveying and computations by using advanced surveying instruments this makes the surveying ease and rapid.

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

		To understand the determination of heights, distances, angels and elevations with the help of latest surveying instruments and different methods of surveying.
		To understand the different types of curves and setting out methods of surveying.
		To give the knowledge of the hydrographic survey and photographic survey.
CE304	Building Planning and Architecture	The students able to understand and to draw various building components.
		The students able to deals with the building planning, orientation and drawing.
		The students able to understand and deals with building services.
		The students able to deals with the architectural design aspects.
		The students able to Representation of a building on Paper.
CE305	Strength of Material	Understand the stress and strain calculation and its importance for different materials.
		Understand the analysis of bending moments and stresses generated on a beam subject to different load conditions.
		Understand the importance of slope and deflection in a beam and to analyze it for different scenarios.
		Analyze the behavior of columns and struts under different loading conditions.
		Understand the determination of torsion on shafts and able to analyze the problems based on combined bending and torsion and also able to analyze unsymmetrical bending in beams.

Principal
Indore Institute of Science and Technology, Indore

Indore Institute of Science and Technology IQAC INDORE

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

CE306	Study of Historical and Ancient Civil Engineering	Student will be able to understand study the various aspects of civil engineering practices in ancient structures.
		Student will be able to understand study with respect to civil engineering practices of historical structures.
BT107	Evaluation of Internship-I completed at I Year Level	Able to Integrate theory and practice
		Able to generate experience on various advance system and software.
		Able to do a different Engineering analysis
		Able to explain the analysis in front of audience
		Understand the importance of available tools and its lifelong learning process.
BT307	90 hrs. Internship based on using various software's –Internship -II	Demonstrate the application of knowledge and skill sets acquired from the course and workplace in the assigned job function/s
		Solve real life challenges in the workplace by analysing work environment and conditions, and selecting appropriate skill sets acquired from the course
		Exhibit critical thinking and problem solving skills by analysing underlying issue/s to challenges
		Demonstrate appreciation and respect for diverse groups of professionals by engaging harmoniously with different company stakeholders
		Exhibit professional ethics by displaying positive disposition during internship
ES401	Energy & Environmental Engineering	The student will be able to understand the concept of energy, energy sources, transformation, efficiency and storage.
		The student will be able to understand the concept of ecosystem, its structure and function.

Principal
Indore Institute of Science and Technology, Indore

Indore Institute of Science and Technology IQAC INDORE

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

		The students will able to understand the concept of biodiversity and its conservation.
		The students will able to understand the various types of environmental pollution, its effects and control measures.
		The student will able to understand sustainable and unsustainable development.
CE402	Construction Technology	Student will be able to design features and construction methods of foundations.
		Students will be proficient in knowledge of pile foundations and design and construction features of different types of formworks and temporary structures.
		Student will be able to design and construction of all types of walls and masonry and other technologies associated with them.
		Students will know about materials and methods used for construction of floors and roofs.
		Students will gain knowledge about planning and construction of earthquake resistant buildings.
CE403	Structural Analysis-I	Student will be able to design features and construction methods of foundations.
		Understand the characteristics, classification, uses and defects of the various other useful building materials.
		Understand basic knowledge of types of floors and roofs and also the basic flooring and roofing material. Get the knowledge about the types of pipes using in sanitary works.
		Understand basic concepts of different types of paints and varnishes including composition, application on the different type of surfaces and types.
		Students will gain knowledge about planning and construction of earthquake resistant buildings.
CE404	Transportation Engineering-I	Understand the principles used in transportation and different transportation systems and their importance as well as understand different components of railways.
		Understand the analysis and design of stations, yards as well as signals used in railways.
		Understand the importance site selection criteria for bridge construction and will able to plan construction of bridges and their loading conditions.
		Will able to identify and choose foundations for different sites of bridges as well as analyze for their strength and testing under load conditions.

Indore Institute of Science and Technology * INDORE * IQAC

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

		Understand the types and methods of surveys and alignments for tunnels and their construction process in different materials.
CE405	Engineering Geology & Remote	Understand the Geology Concept in civil engineering.
		Students are able to understand the mineralogy and crystallography structure.
		Students are able to classify the various types of Rock and its formation method.
		Understand the various terminology of structural geology and be able to understand the Geology report.
		Understand the role of geology in the design and construction Process of underground openings in rock and be able to understand the remote sensing application.
CE406	Software Lab	Students will be able to undersatnd CAD and Auto Cad
		Students will be able to draw the commands used in the software.
		Students will be able to draw the basic geometric shapes.
		Students will be able to understand 3-D Modelling with auto cad.
		Student will be able to Learn and practice Draw commands, Modify commands, Dimensioning, Annotating in AutoCAD and Drawing plan, section and elevation of 1 BHK house.
BT407	90 hrs Internship based on using various software Internship-II	Demonstrate the application of knowledge and skill sets acquired from the course and workplace in the assigned job function/s
		Solve real life challenges in the workplace by analysing work environment and conditions, and selecting appropriate skill sets acquired from the course
		Exhibit critical thinking and problem solving skills by analysing underlying issue/s to challenges
		Demonstrate appreciation and respect for diverse groups of professionals by engaging harmoniously with different company stakeholders
		Exhibit professional ethics by displaying positive disposition during internship
BT408	Cyber Security	Analyze and evaluate the cyber security needs of an organization.
		Determine and analyze software vulnerabilities and security solutions to reduce the risk of exploitation.
		Measure the performance and troubleshoot cyber security systems.
		Implement cyber security solutions and use of cyber security, information assurance, and cyber/computer forensics software/tools.
		Comprehend and execute risk management processes, risk treatment methods, and key risk and performance indicators
CE-501	Fluid Mechanics I	Understand the basics of fluid flow and pressure in fluids at rest and also Analyze the condition of stability of a body in a fluid based on relative positions of its center of buoyancy and Meta Centre.
		Analyze the behavior of fluid at rest and in motion with concepts of fluid statics, kinematics and dynamics.

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

		Apply Bernoulli's equation to fluid flow problems involving venturimeter, orifice meter, pitot tube, orifices, mouthpieces, notches and weirs.
		Analyze the flow through pipes and the major and minor energy losses.
		Understand basic concepts of model study are also developed along with laws of similarity and similitude.
CE-502	Transportation Engineering II	Understand the basics of Highway alignment, able to find out the Stopping Sight distance, Overtaking Sight Distance and Extra Widening at curves.
		Understand the Seal Coat, Tack Coat, surface dressing. Also able to understand the flexible and rigid payment.
		Understand the Channelized and un-channelized intersection, rotary design elements and traffic lights design.
		Analyze the Runway Orientation, read the Wind Rose diagram, able to apply the runway length correction.
		Understand the threshold lighting, taxiway lighting, and traffic control equipment like ILS- Instrument Landing System, PAR- Precision Approach Radar..
CE - 503	Departmental Elective – Quantitative Surveying and Costing	Students understood the purpose, importance and types of estimates.
		Students are able to analyze the rates of various items of work.
		Students learned to prepare the estimates of various types of construction works.
		Students gained the knowledge of all the terms, rules and regulations of estimating.
		Students understood the purpose, importance and methods of valuation.
CE - 504	Open Elective- Urban Town and Planning	Students will be able to understand planning process of an urban area & surveys conducted for urban development and designing in relation with spatial organization, utility, demand of the area and supply considering future growth of an urban area.
		Students shall know about Urban Planning agencies and their functions. Also public participation in planning, development control regulations, sustainability, components of sustainable urban and regional development and emerging concepts for city.
		Students will gain complete knowledge about town and country planning act, building bye-laws, elements of city planning, landscaping and urban planning standards.
		Students shall know about traffic transportation systems and management for urban roads considering Legal issues in planning and professional practice for preparation of DPR.
		Students will be able to understand types of development plans and Water Supply & sanitation for urban areas, planning agencies and their purpose.
		Students are able to prepare detailed estimates of buildings.

Indore Institute of Science and Technology IQAC INDORE

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

CE - 505	Quantity surveying & Costing Lab	Students are able to prepare the detailed estimate for services of plumbing and water supply or Electrification work
		Students are able to prepare the detailed estimate for earth work for the road construction or arched culvert.
		Students are able to learn the analysis of rates of various items of work
		Students are able to learn preparation of DPR of Civil Engineering Project
CE - 506	Material Testing Lab	Students able to apply and understand the significance of various type of Cement Test
		Students able to apply and understand the significance of various type of Aggregate Test
		Students able to apply and understand the significance of various type of workability Test of Concrete
		Students able to apply the Mix Design of Concrete
		Students able to apply and understand the significance of various type of Concrete Test
CE-507	Evaluation of Internship-II	Able to Integrate theory and practice of Civil Engineering
		Able to generate experience on various advance system and software of Civil Engineering
		Able to do a different Civil Engineering analysis
		Able to explain the analysis in front of audience
		Understand the importance of available tools and its lifelong learning process.
CE - 508	Field Visit, Case Study and Seminar	Introspect & develop a planned approach towards his career & life in general.
		Have clarity on his career exploration process and to match his skills and interests with a chosen career path.
		Explain the use of functional and chronological resume.
		Develop thinking ability and polish his expression in group discussions.
		Be prepared for the personal interview through mock interviews while being aware of the various kinds of interviews
CE601	Structural Design and Drawing	Students understood the purpose, importance of design and Basic Principles of Structural Design.
		Students are understood that how to analyze and Design the Beams.
		Students understood that how to analyze and Design the slab.
		Students understood that how to analyze and Design the column and footing.
		Students understood that how to Design the Staircases.
CE 602	Environmental Engineering I	Students will be able to understand Estimation of Water Quality and Population forecasting.
		Students shall know about design of Sewer for waste-water.
		Students will gain complete knowledge Quality of water and Wastewater and its analysis.

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

		Students shall know about Treatment methods and design of water treatment units
		Students will be able to understand Wastewater Treatment Technologies and waste water treatment units
CE 603	Departmental Elective-Water Resource Engineering	The student will be able to understand the concept of irrigation along with different types of irrigation schemes. The concepts of soil water plant relationship along with crop water requirement are also developed.
		The student will be able to understand the concept of ground water and well irrigation.
		The students will able to do assessment of available water and hydrologic analysis including precipitation analysis, rainfall Runoff process, and design flood estimation along with hydrograph analysis.
		The students will able to do detailed design of canal and other canal structures.
		The student will able to estimate the flood by various methods.
CE 604	Open Elective-Fluid Mechanics-II	Understand the basic concept of turbulent flow, could be able to design pipe network and analyze the problems based on pipe flow
		Analyze the behavior of fluid in open channel during Uniform flow and also able to design open channel for such condition
		Analyze the behavior of fluid in open channel during Non – Uniform flow and also able to design open channel for such condition.
		Analyze the various immersed bodies.
		Understand basic concepts of Fluid machines and design, characteristics of turbines and pumps.
CE 605	Advance surveying lab	Students able to understand the various Advance Surveying Tools
		Students able to analyse leveling work
		Students able to survey a field by Traversing
		Students understand the significance of surveying
		Students able to work on a surveying instrument on construction site
CE 606	Non Destructive Testing Lab	Student will be able to examine the Soundness and Strength of Structural components by study of Rebound Hammer Test.
		Student will be able to examine the Compactness, homogeneity and air voids of an existing structure by study of UPV Test.
CE 607	Internship-III	Able to Integrate theory and practice of Civil Engineering
		Able to generate experience on various advance system and software of Civil Engineering
		Able to do a different Civil Engineering analysis
		Able to explain the analysis in front of audience

Indore Institute of Science and Technology IQAC INDORE

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

		Understand the importance of available tools and its lifelong learning process.
CE 608	Minor Project II	Introspect & develop a planned approach towards his career & life in Civil Engineering.
		Have clarity on his career exploration process and to match his skills and interests with a chosen career path.
		Explain the use of functional and chronological resumes.
		Develop thinking ability and polish his expression in group discussions.
		Be prepared for the personal interview through mock interviews while being aware of Civil Engineering
CE - 701	Geotechnical Engineering	Understand the soil formation, terminologies of soil properties and there relation. Able to classify the type of soil.
		Able to determine the coefficient of permeability and permeability of layered soil. Understand the application of flow net, quick condition and Laplace equation for two dimensional flow
		Understand the Boussinesqs and Westergards theory, Newmarks influence chart for irregular areas. Understand the factors affecting the compaction of soil
		Understand the type of Consolidation of soil, Terzaghi's One Dimensional Consolidation theory and method of finding coefficient of consolidation
		Understand the type of Shear Stress test i.e., Direct Shear test, Triaxial test and Vane Shear test. Able to understand the mohr colomb shear strength envelope and failure envelope. Understand the soil stabilization
CE - 702	Departmental Elective- Environmental Engineering-II	Students will be able to understand theory and design of preliminary treatment units of waste-water treatment.
		Students shall know about methods, theory and design of Biological Treatment of waste-water treatment.
		Students will gain complete knowledge about Advanced Waste-water treatment methods.
		Students shall know about Air pollution its classification and characterization and effects.
		Students will be able to understand meteorological aspects of Air pollution chemistry.
CE - 703	Open Elective- Project Management	Understand project characteristics and various stages of a project.
		Understand the conceptual clarity about project organization and feasibility analyses – Market, Technical, Financial and Economic.
		Analyze the learning and understand techniques for Project planning, scheduling and Execution Control
		Understand the contract management, Project Procurement and productivity.
		Understand the Documentation and Control are practiced in the industry.

Indore Institute of Science and Technology IQAC INDORE

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

CE - 704	Prestressed Concrete Structures Lab	Students able to fabricate caste and test prestressed concrete beam and slab for strength and deflection behaviour.
		Students able to fabricate caste and test prestressed concrete beam and slab with different layout of cable for strength and deflection behaviour.
		Students are able to fabricate the different prestressed structure
CE 705	IoT Lab	Explain what Internet of Things is.
		Describe key technologies in Internet of Things and RFID.
		Understand Principles for Web Connectivity and Communication Protocols
		Explain Wireless Sensor Network Technology and Sensor data Communication Protocols.
		Understand smart city streetlights control & monitoring and Business models for the Internet of Things
CE - 706	Major Project-I	Introspect & develop a planned approach towards his career & life in Civil Engineering.
		Have clarity on his career exploration process and to match his skills and interests with a chosen career path.
		Explain the use of functional and chronological resumes.
		Develop thinking ability and polish his expression in group discussions.
		Be prepared for the personal interview through mock interviews while being aware of Civil Engineering
CE - 707	Evaluation of Internship -III	Able to Integrate theory and practice of Civil Engineering
		Able to generate experience on various advance system and software of Civil Engineering
		Able to do a different Civil Engineering analysis
		Able to explain the analysis in front of audience
		Understand the importance of available tools and its lifelong learning process.
CE-801	Design of Steel Structures	Student are able to understand the Structural Design and Connection Design
		Students are able to design Compression and Tension member
		Students are able to design Flexural member
		Students are able to design Column and Column Bases
		Students are able to Design Industrial Buildings
CE - 802	Departmental Elective-	Students will be able to understand Selection of foundation and Sub-soil exploration/investigation
		Students shall know about design and analysis of Shallow Foundation.

Indore Institute of Science and Technology IQAC INDORE

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

	Foundation Engineering	Students will gain complete knowledge for design and analysis of Pile foundations.
		Students shall know about Foundations on problematic soil & Introduction to Geo-synthetics methods and technique.
		Students will be able to understand various earth pressure theories.
CE - 803	Open Elective- Artificial Intelligence	Be familiar with terminology used in this area
		Explain what constitutes "Artificial" Intelligence and how to identify systems with Artificial Intelligence
		Know how to build simple knowledge-based systems
		Have ability to apply knowledge representation, reasoning, and machine learning techniques to realworld problems
CE - 804	Earthquake Resistant Structures	The students will be able to evaluate seismic forces for various structures as per relevant Indian standards
		The students will be able to design and ductile detailing of structures for seismic resistance as per Indian standards
		The students will be able to apply concepts of repair and rehabilitation of earthquake affected structures
CE 805	Major Project-II	Introspect & develop a planned approach towards his career & life in Civil Engineering.
		Have clarity on his career exploration process and to match his skills and interests with a chosen career path.
		Explain the use of functional and chronological resumes.
		Develop thinking ability and polish his expression in group discussions.
		Be prepared for the personal interview through mock interviews while being aware of Civil Engineering

Department Of Electronics and Communications: Course Outcomes Descriptions

Sub Code	Sub Name	CO Descriptions
BT301	Mathematics-III	To determine the root finding techniques which can be used to solve practical engineering problems also demonstrate the use of interpolation methods to find intermediate values in given graphical and/or tabulated data.
		Apply the concept of numerical analysis to find the relative strengths and weaknesses of each computation method and know which are most applicable for given problem also will be able to approximate and analysis the errors obtained in the numerical solution of equations, ordinary, partial differential equations and simultaneous equations as well.

Indore Institute of Science and Technology IQAC INDORE

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

		To apply the analytical technique to express periodic function as a Fourier series and acquire the concepts of Laplace transformation & inverse Laplace Transform with its property to solve Partial Differential equation and Ordinary Differential Equation with given boundary conditions which is helpful in all engineering & research work.
		Apply the concept of a random variable,
		probability distribution and their application in
EC302	Electronic Measurement & Instrumentation	diversified fields.
		Students will able to understand the concept of Measurement and error.
		Students will able to analyze and design different types of bridges used for measurement of Resistance, Inductance and capacitance.
		Students will able to understand the operation of various instrumentation transducers.
		Students will able to understand the operation of various electronic instruments like CRO and Signal Generators.
EC303	Digital System Design	Students will able to understand the working of the digital measurement and instruments used in Instrumentation world.
		Design combinational circuit with the help of logic gates like adder subtractor and others.
		Design binary storage devices like flip-flops and other components.
		Design sequential circuits like Register &counters
		Design logic families and semiconductor memories and converters.
EC304	Electronic Devices	Students will able to understand the general insight about Semiconductor Material Properties, compound semiconductor materials.
		Students will able to understand the various type of different diodes such as: Tunnel diodes, Varactor diodes, Schottky diode, Photo diodes, Photodetector, LED, solar cell.
		Students will able to understand the Ideal and Practical diode, Clipper, Clamper.
		Students will able to understand the current components and equations, CB, CE and CC configuration, input and output characteristics.
		Students will able to understand amplifier and JFET construction.
EC305	Network Analysis	Graduates will be able to understand the basic circuit elements, circuit variables and Kirchhoff laws.
		Graduates will be able to solve problems using mesh and node analysis.
		Graduates will be able to analyses circuits in Laplace domain
		Graduates will be able to understand the concept of two port networks
		Graduates can understand tuned circuits & resonance.
EC306	EMI Lab	Students will able to understand the concept of Measurement and error.
		Students will able to analyze and design different types of bridges used for measurement of Resistance, Inductance and capacitance.
		Students will able to understand the operation of various instrumentation transducers.

Indore Institute of Science and Technology IQAC INDORE

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

		Students will able to understand the operation of various electronic instruments like CRO and Signal Generators.
		Students will able to understand the working of the digital measurement and instruments used in Instrumentation world.
BT107	Evaluation of Internship-I completed at I year level	Ability to be a multi-skilled engineer with good technical knowledge, management, leadership, social and environmental responsibility, and entrepreneurship skills.
		Understand the usage of modern technologies & tools in the field of Electronics & Communication Engineering
		Get the knowledge of energy carriers, energy technologies, energy challenges and energy system integration and environment sustainability.
		Learn about the different types of ecosystems present in environment, ecological succession and energy flow in the ecosystem.
		Understand the value of biodiversity to human societies, threats to biodiversity, In-situ and Ex-situ conservation of biodiversity.
ES401	Energy & Environmental Engineering	Get the knowledge of energy carriers, energy technologies, energy challenges and energy system integration and environment sustainability.
		Learn about the different types of ecosystems present in environment, ecological succession and energy flow in the ecosystem.
		Understand the value of biodiversity to human societies, threats to biodiversity, In-situ and Ex-situ conservation of biodiversity.
		Acquire knowledge of different types of environmental pollution, its effects on life and its remedies
		Aware about the social issue related to the environment, environment ethics, protection and conservation acts for the environment
EC402	Signals & Systems	Students will able to generate and characterize various continuous and discrete time signals.
		Students will able to develop input output relationship for linear shift invariant system and understand the convolution operator for continuous and discrete time system
		Students will able to analyze the spectral characteristics of signals using Fourier analysis.
		Students will able to analyze DT systems & their realization using Z-transforms.
		Students will able to evaluate and analyse the reconstruction of signals.

Indore Institute of Science and Technology IQAC INDORE

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

EC403	Analog Communication	Develop an understanding of the basic electronic communication process and use it for the solution of electronics-and communication engineering with signals
		Derive the mathematical models for analog modulation schemes ie for AM
		Derive the mathematical models for analog modulation schemes ie for FM
		Analyze and design transmitters & receivers.
		Analyze the effects of noise in continuous wave modulation systems.
EC404	Control System	Students will able to develop an understanding of the basic control system and use it for the solution of electronics and communication engineering problems
		Students will able to derive the mathematical models for Time Response analysis and time-domain stability analysis.
		Students will able to derive the mathematical models for Frequency Response analysis and Frequency-domain stability analysis.
		Students will able to derive and analyze system design problems
		Students will able to analyze state space problem and controllability and observability
EC405	Analog Circuits	Students will able to understand the application of feedback and its types.
		Students will able to understand the basics of ICs and VLSI flow.
		Students will able to understand the basic applications of OpAmp which are universally used.
		Students will able to understand the timer circuit and their IC configurations as multi-vibrators.
		Students will able to understand the various regulation ICs and their application and comparisons
EC406	Simulation Lab	Design and simulate Basic Electronic circuits (examples rectifiers, clippers, clampers, diode, transistor characteristics etc).
		Analyze Transient and steady state analysis of RL/ RC/ RLC circuits and realization of network theorems.
		Study of virtual instruments built in the software.
		Analyze circuit optimization
		Analyze fabricated PCB.
EC 501	Microprocessor & its Application	Students will be able to know about 8086 microprocessor addressing modes and pin description.
		Students will be able to know about 8086 microprocessor instruction set and their applications..
		Students will be able to know about 8155, 8255, Interfacings key boards, LEDs , ADC, DAC and memory Interfacing

IQAC

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

		Students will be able to know about 8254 programmable interval timer, 8259A programmable interrupt controller & 8257 DMA controller.
		Students will be able to know about the microcontrollers (8051).
EC 502	Digital Communication	Students can able to differentiate various sampling methods and pulse modulation schemes.
		Students can able to understand mathematical model, spectrum, advantages, disadvantages and application various Analog to Digital conversion methods.
		Students can able to understand mathematical model, spectrum, advantages, disadvantages and application of various digital modulation schemes.
		Students can able to understand probability of error and signal space representation of various digital modulation Schemes.
		Students can able to understand Information theory, Source coding and channel coding.
EC 503	Departmental Elective (A) CNTl (B) Mobile Communication (C) Advanced Control system	Students will able to analyze and design different type of Symmetrical And Asymmetrical Network
		Students will able to analyze and Design filter and Attenuators
		Students will able to analyze the line parameters and various losses in transmission lines.
		Students will able to apply smith chart for line parameter and impedance calculations
		Students will able to analyze and match Impedance
EC 504	Open Elective (A) EMT (Electro Magnetic (Theory) (B) Computer System Organisation (C) Process Control Instrumentation	Students will be able to apply vector calculus to understanding the Coloumbs law, Gauss law, electrostatic potential, and Laplace and Poisson equation boundary condition and be able to solve the electrostatic problem.
		Students will be able to apply vector calculus to understand the Biosavert law, Ampere circuital law, Lorentz force inductance and be able to solve the magneto static problem.
		Students will be able to analyze the Maxwell's equations for electromagnetic fields.
		Students will be able to derive Electromagnetic wave equation and apply the Poynting expression.
		Students will be able to Understand the behavior of electromagnetic wave in different medium.
EC 505	CNTL Lab	Students will able to analyze and design different type of Symmetrical And Asymmetrical Network
		Students will able to analyze and Design filter and Attenuators

Indore Institute of Science and Technology * INDORE * IQAC

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

		Students will able to analyze the line parameters and various losses in transmission lines.
		Students will able to apply smith chart for line parameter and impedance calculations
		Students will able to analyze and match Impedance
EC 506 EC 507 EC 508	Matlab Programming Evaluation of Internship-II Minor Project 1	Understand the different toolbox in the MATLAB like, communication toolbox, control system toolbox, math toolbox, etc and also Understanding the programming in MATLAB which is based on the mentioned toolbox.
		Ability to be a multi-skilled engineer with good technical knowledge, management, leadership, social and environmental responsibility, and entrepreneurship skills.
		Understand the usage of modern technologies & tools in the field of Electronics & Communication Engineering
		Identify and find solution to problems.
		Get awareness on design methodology using modern technologies, tools and systems and implementation real time.
EC-601	Digital Signal Processing	Apply communication, writing skills & Presentation skills
		Develop the team work and leadership skills with professional and ethical values.
		Students will able to understand the characteristics of continuous time and discrete-time signals and systems.
		Able to calculate Z-transforms for discrete time signals and system functions and also understand the relationship between poles, zeros, and stability.
		Analyze signals using the discrete Fourier series and discrete Fourier transform.
EC-602	Antenna & Wave propagation	The students will understand the basics of Fast Fourier Transform.
		Able to design Digital IIR/ FIR filters from Analog filters using various techniques.
		Student will be able to get detailed knowledge of antenna theory to form the field patterns.
		Student will be able to relate transmission and reception of antenna signal parameters.
		Student will be able to know the applications and various antenna types.
EC-603		Student will be able to understand the antenna arrays and synthesis of array pattern.

IQAC

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

	Departmental Elective (A) Data Communication (B) CMOS Design (C) Satellite Communication	Student will be able to work with models of Radio wave propagation affecting Communication Systems.
		Students will able to understand all the terminologies related to Data Communication.
		Students will able to understand the Functions of each layer of OSI model and TCP/IP model.
		Students can understand the error correction and detection process at data link and transport layer. They can solve numerical based on this. Framing and accesses control methods are also known to them
EC-604	Open Elective (A) Microcontroller & Embedded system (B) Bio-medical Electronics (C) Power Electronics	Students can understand the frame size protocol details and architecture of ATM, SONET, X.25, frame relay and many more
		Comparatively study on Repeaters, Bridges and Gateways.
		Students will be able to know about 8051 interfacing.
		Students will be able to know about 8096 microcontroller..
		Students will be able to know about basics of embedded system.
EC-605	Data Communication Lab	Students will be able to know about Embedded architecture.
		Students will be able to know about IO peripheral devices.
		Multiplexing Techniques, Line Coding Techniques and Serial and parallel transmissions will be known to students.
		Various transmission media, their comparison and specifications will be known to students.
		NIC, RS-232 MODEM etc. networking hardware will be understood.
EC-606	Microcontroller & Embedded System Lab	Various topologies, LAN architectures and integrated services digital network will be known to students.
		Students will be able to understand the communication between 8051 with PC.
		Students will be able to Study of various bit manipulation of 8051.
		Students will be able to do Programming of Timer and counter in 8051.
		Students will be able to understand the Programming in 8051 for sensor and actuator interfacing.

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

EC-701	VLSI Design	Students will be able to understand the Programming implementation of 8051 with LCD interfacing
		Get awareness on design methodology using modern technologies, tools and systems and implementation real time.
		Apply communication, writing skills & Presentation skills
		Develop the team work and leadership skills with professional and ethical values.
		Students will able to demonstrate a clear understanding of CMOS fabrication flow and technology scaling.
EC-702	Departmental Elective (A) Microwave Engg. (B) Information Theory & Coding (C) Nano Electronics	Students will able to design MOSFET based logic circuit
		Students will able to draw layout of a given logic circuit
		Students will able to demonstrate an understanding of working principle of operation of different types of memories.
		Students will able to demonstrate an understanding of working principles of clocking, power reduction and Distribution.
		Understand basic concepts and applications of microwave systems and Analyze different waveguide structures.
EC-703	(A) Cellular Mobile Communication (B) Internet of Things (C) Probability Theory & Stochastic Processor	Understand about Solid State Devices and Application of Various type of diodes, Transferred Electron Devices and Avalanche transit time devices.
		Understand microwave measurement.
		Identify of various types of Microwave electronic components.
		Solving complex RF & Microwave communication network design problems
		Understand in depth about Internet of things.
EC-704	Microwave Lab	Establish secure communication for his network for his devices connected in IOT.
		Store his data securely on cloud and access it when required
		Design web based application using various internet protocols and services
		Use sensor technology and RFID and wireless networking for maintaining privacy and security concern in smart city and housing environmental considerations.
		Understand basic concepts and applications of microwave systems and Analyze different waveguide structures.

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

EC-705	I.O.T. Lab	Understand about Solid State Devices and Application of Various type of diodes, Transferred Electron Devices and Avalanche transit time devices.
		Understand microwave measurement.
		Identify of various types of Microwave electronic components.
		Solving complex RF & Microwave communication network design problems
		Students will be able to know about Arduino applications.
EC-706	Major Project-I	Students will be able to know about connecting Arduino with ESP 8266.
		Students will be able to know about Sensor interfacing.
		Students will be able to know about connecting various protocols.
		Students will be able to get and post request through HTTP protocols
		Identify the complex engineering problems relevant to the society and industry
EC-707	Evaluation of Internship -III	Apply modern technologies, tools and systems in the field of Electronics & Communication Engineering to analyze the identified problem
		Design and implement a viable solution to the problem.
		Apply communication, writing skills & Presentation skills
		Develop the team work and leadership skills with professional and ethical values.
		Ability to be a multi-skilled engineer with good technical knowledge, management, leadership, social and environmental responsibility, and entrepreneurship skills.
EC 801	Optical Fibre Communication	Understand the usage of modern technologies & tools in the field of Electronics & Communication Engineering
		Understand Optical Fiber Communication System and its parameters.
		Analyze transmission characteristics of optical fiber
		Understand the construction and operation of various optical sources and detectors.
		Performance analysis of optical receivers and study of fiber joints
EC 802	Departmental Elective (A) AI & Signal Processing (B) Wireless Communication	Brief introduction of optical fiber networks and amplifiers
		Students will able to develop a basic understanding of AI building blocks presented in intelligent agents.
		Students will able to choose an appropriate problem-solving method and knowledge representation technique.

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

	(C) 5G Technology	Students will able to analyze the strength and weaknesses of AI approaches to knowledge-intensive problem-solving.
		Students will able to understand real time applications of Fourier transform.
EC 803	Open Elective (A) Wireless Network (B) Digital Image Processing (C) Speech Processing	Students will able to describe discrete time systems in terms of difference equations.
		Understand the basic elements of digital image processing
		Develop and analyze the algorithm for discrete Fourier transformations.
		Understand the concept of Image enhancement by analyzing different filtering
		techniques.
EC 804 EC 804	Advanced Communication Engg. Lab Advanced Communication Engg. Lab	Applying different models and techniques to understand the concept of image
		restoration
		Analyze and implement different image encoding methods
		Understand the microwave signal measurement using VSWR and frequency meter and practical implementation of Microwave Communication Systems.
		Understand the design, application and practical implementation of various Digital Modulation techniques.
EC 805	Major Project-II	Understand the various losses associated with OFC channel
		Understand the characteristics of various antenna and its coverage area
		Identify the complex engineering problems relevant to the society and industry
		Apply modern technologies, tools and systems in the field of Electronics & Communication Engineering to analyze the identified problem

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

Sample of Direct Attainment

Direct Assessment	PO / PSO Average	2.10		2.22	2.41	2.31	1.84	2.16	2.18	2.55	2.15	2.14	2.85	2.66	2.63	2.45	2.69	2.52
	PO / PSO %	0.70		0.74	0.80	0.77	0.61	0.72	0.73	0.85	0.72	0.71	0.95	0.89	0.88	0.82	0.90	0.84
Direct Assessment 80%																		
	PO / PSO %	0.56		0.59	0.64	0.62	0.49	0.58	0.58	0.68	0.58	0.57	0.76	0.71	0.70	0.66	0.72	0.67

Sample Calculation for Indirect (20%) and Direct (80%)

Type of Feedback	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
Course End Survey	80.65	78.95	78.95	78.85	79.25	78.25	81.4	79	81.1	82	81.25	81.7
Program End Survey												
Alumni Survey												
Average	80.65	78.95	78.95	78.85	79.25	78.25	81.4	79	81.1	82	81.25	81.7
Indirect Assessment	80.65	78.95	78.95	78.85	79.25	78.25	81.4	79	81.1	82	81.25	81.7
20% of Indirect Assessment	16.13	15.79	15.79	15.77	15.85	15.65	16.3	16	16.2	16.4	16.25	16.34
Direct Assessment	74.00	80.02	77.11	61.12	72.23	73.00	85.00	72.31	71.85	95.00	89.00	88.00
80% of Direct Assessment	59.2	64.02	61.69	48.9	57.78	58.4	68	58	57.5	76	71.2	70.4
PO Attainment for Session 2023-24	75.33	79.81	77.48	64.67	73.63	74.05	84.3	74	73.7	92.4	87.45	86.74

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

Department of Information Technology : AY 2023-2024

Semester / Course End Survey including Curriculum Feedback

INDORE INSTITUTE OF SCIENCE & TECHNOLOGY , INDORE

COURSE WISE FEED BACK REPORTS

College: IIST
Branch: BTech-IT
Sem: 1st
Session: 2023-24
Generate

SNo	Question	Feedback
1	Ability to design and develop web-based solutions with effective graphical user interface for the need of sustainable development.	65.31
2	Ability to solve the social, cultural, ethical issues with IT solutions.	65.03
3	Ability to work individually and as a member or leader in diverse teams	76.13
4	Assessment and marking have been fair	74.19
5	Broadly educated and will have understanding of ethical responsibilities.	71.61
6	Capability to manage the software and IT based projects in multidisciplinary environments.	72.9
7	Capable of self-educate in case of technological change and to engage to independent life-long learning.	67.74
8	Course outcomes are clear in most courses.	69.03
9	Demonstrate basic knowledge in mathematics, science, engineering, and humanities.	72.9
10	Demonstrate with excellent programming, analytical, logical and problem-solving skills.	73.55
11	Design and develop the computer-based systems.	70.32
12	Faculty has made the subject interesting	68.39
13	Faculty is good at explaining things	72.58
14	I have been able to contact faculty when I needed to	81.94
15	Identify, formulate and analyze the complex engineering problems.	76.13
16	Overall I am satisfied with the quality of the course	69.68
17	Overall rating of the program	71.61
18	Proficient enough to communicate effectively in both verbal and written forms	75.48
19	Rate how challenging was the syllabus offered by the courses	71.61
20	Rate the adequateness of the textbooks and reference books mentioned for the courses	64.52
21	Rate the appropriateness of the sequence of the courses provided in the curriculum	70.32
22	Rate the depth of the syllabus of the courses in relation to the competencies expected by industry/ current global scenario.	69.68
23	Rate the design of the courses in terms of Training & Placement	68.68

INDORE INSTITUTE OF SCIENCE & TECHNOLOGY , INDORE

COURSE WISE FEED BACK REPORTS

College: IIST
Branch: BTech-IT
Sem: IInd
Session: 2023-24
Generate

SNo	Question	Feedback
1	Ability to design and develop web-based solutions with effective graphical user interface for the need of sustainable development.	67.73
2	Ability to solve the social, cultural, ethical issues with IT solutions.	63.18
3	Ability to work individually and as a member or leader in diverse teams	68.18
4	Assessment and marking have been fair	65.91
5	Broadly educated and will have understanding of ethical responsibilities.	64.55
6	Capability to manage the software and IT based projects in multidisciplinary environments.	63.18
7	Capable of self-educate in case of technological change and to engage to independent life-long learning.	65.91
8	Course outcomes are clear in most courses.	67.73
9	Demonstrate basic knowledge in mathematics, science, engineering, and humanities.	69.09
10	Demonstrate with excellent programming, analytical, logical and problem-solving skills.	67.73
11	Design and develop the computer-based systems.	66.36
12	Faculty has made the subject interesting	66.82
13	Faculty is good at explaining things	66.14
14	I have been able to contact faculty when I needed to	68.64
15	Identify, formulate and analyze the complex engineering problems.	62.73
16	Overall I am satisfied with the quality of the course	67.73
17	Overall rating of the program	70.45
18	Proficient enough to communicate effectively in both verbal and written forms	70.45
19	Rate how challenging was the syllabus offered by the courses	68.18
20	Rate the adequateness of the textbooks and reference books mentioned for the courses	66.36
21	Rate the appropriateness of the sequence of the courses provided in the curriculum	65.91
22	Rate the depth of the syllabus of the courses in relation to the competencies expected by industry/ current global scenario.	66.36

Indore Institute of Science and Technology IQAC INDORE

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

INDORE INSTITUTE OF SCIENCE & TECHNOLOGY , INDORE

COURSE WISE FEED BACK REPORTS

College: IIST
Branch: BTech IT
Sem: IIIrd
Session: 2023-24
Generate

SNo	Question	Feedback
1	Ability to design and develop web-based solutions with effective graphical user interface for the need of sustainable development.	79.21
2	Ability to solve the social, cultural, ethical issues with IT solutions.	79.37
3	Ability to work individually and as a member or leader in diverse teams	80
4	Assessment and marking have been fair	79.37
5	Broadly educated and will have understanding of ethical responsibilities.	77.94
6	Capability to manage the software and IT Based projects in multidisciplinary environments.	76.21
7	Capable of self-educate in case of technological change and to engage in independent life-long learning.	80.79
8	Course outcomes are clear in most courses.	80.32
9	Demonstrate basic knowledge in mathematics, science, engineering, and humanities.	80.48
10	Demonstrate with excellent programming, analytical, logical and problem-solving skills.	79.52
11	Design and develop the computer-based systems.	80
12	Faculty has made the subject interesting	80.16
13	Faculty is enthusiastic about what is taught	78.1
14	Faculty is good at explaining things	81.43
15	I have been able to contact faculty when I needed to	80.95
16	Identify, formulate and analyze the complex engineering problems.	81.11
17	Overall I am satisfied with the quality of the course	81.59
18	Overall rating of the program	77.94
19	Proficient enough to communicate effectively in both verbal and written forms	78.89
20	Rate how challenging was the syllabus offered by the courses	80
21	Rate the adequateness of the textbooks and reference books mentioned for the courses	80.63
22	Rate the appropriateness of the sequence of the courses provided in the curriculum	78.89

INDORE INSTITUTE OF SCIENCE & TECHNOLOGY , INDORE

COURSE WISE FEED BACK REPORTS

College: IIST
Branch: BTech IT
Sem: IVth
Session: 2023-24
Generate

SNo	Question	Feedback
1	Ability to design and develop web-based solutions with effective graphical user interface for the need of sustainable development.	82.06
2	Ability to solve the social, cultural, ethical issues with IT solutions.	82.7
3	Ability to work individually and as a member or leader in diverse teams	79.05
4	Assessment and marking have been fair	80.79
5	Broadly educated and will have understanding of ethical responsibilities.	80.48
6	Capability to manage the software and IT Based projects in multidisciplinary environments.	77.94
7	Capable of self-educate in case of technological change and to engage in independent life-long learning.	79.37
8	Course outcomes are clear in most courses.	80.32
9	Demonstrate basic knowledge in mathematics, science, engineering, and humanities.	79.52
10	Demonstrate with excellent programming, analytical, logical and problem-solving skills.	81.27
11	Design and develop the computer-based systems.	82.06
12	Faculty has made the subject interesting	78.1
13	Faculty is enthusiastic about what is taught	81.43
14	Faculty is good at explaining things	77.78
15	I have been able to contact faculty when I needed to	80.48
16	Identify, formulate and analyze the complex engineering problems.	80.16
17	Overall I am satisfied with the quality of the course	80.95
18	Overall rating of the program	79.05
19	Proficient enough to communicate effectively in both verbal and written forms	79.68
20	Rate how challenging was the syllabus offered by the courses	81.11
21	Rate the adequateness of the textbooks and reference books mentioned for the courses	80
22	Rate the appropriateness of the sequence of the courses provided in the curriculum	79.21

IQAC

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

INDORE INSTITUTE OF SCIENCE & TECHNOLOGY , INDORE

COURSE WISE FEED BACK REPORTS

College: IIST
Branch: BTech IT
Sem: VIth
Session: 2023-24
Generate

SNo	Question	Feedback
1	Ability to design and develop web-based solutions with effective graphical user interface for the need of sustainable development.	78.36
2	Ability to solve the social, cultural, ethical issues with IT solutions	80.01
3	Ability to work individually and as a member or leader in diverse teams	80.91
4	Assessment and marking have been fair	80.29
5	Broadly educated and will have understanding of ethical responsibilities.	79.67
6	Capability to manage the software and IT Based projects in multidisciplinary environments.	80
7	Capable of self-educate in case of technological change and to engage in independent life-long learning.	79.96
8	Course outcomes are clear in most courses.	78.94
9	Demonstrate basic knowledge in mathematics, science, engineering, and humanities.	80.22
10	Demonstrate with excellent programming, analytical, logical and problem-solving skills.	80.22
11	Design and develop the computer-based systems.	79.2
12	Faculty has made the subject interesting	79.42
13	Faculty is good at explaining things	79.56
14	I have been able to contact faculty when I needed to	79.38
15	Identify, formulate and analyze the complex engineering problems.	79.53
16	Overall I am satisfied with the quality of the course	80.95
17	Overall rating of the program	80.44
18	Proficient enough to communicate effectively in both verbal and written forms	79.96
19	Rate how challenging was the syllabus offered by the courses	80.77
20	Rate the adequateness of the textbooks and reference books mentioned for the courses	79.2
21	Rate the appropriateness of the sequence of the courses provided in the curriculum	79.64
22	Rate the depth of the syllabus of the courses in relation to the competencies expected by industry/ current global scenario.	79.09

INDORE INSTITUTE OF SCIENCE & TECHNOLOGY , INDORE

COURSE WISE FEED BACK REPORTS

College: IIST
Branch: BTech IT
Sem: VIth
Session: 2023-24
Generate

SNo	Question	Feedback
1	Ability to design and develop web-based solutions with effective graphical user interface for the need of sustainable development.	81.8
2	Ability to solve the social, cultural, ethical issues with IT solutions	77.7
3	Ability to work individually and as a member or leader in diverse teams	81.84
4	Assessment and marking have been fair	77.87
5	Broadly educated and will have understanding of ethical responsibilities.	79.67
6	Capability to manage the software and IT Based projects in multidisciplinary environments.	79.34
7	Capable of self-educate in case of technological change and to engage in independent life-long learning.	80.33
8	Course outcomes are clear in most courses.	79.67
9	Demonstrate basic knowledge in mathematics, science, engineering, and humanities.	78.03
10	Demonstrate with excellent programming, analytical, logical and problem-solving skills.	81.64
11	Design and develop the computer-based systems.	78.7
12	Faculty has made the subject interesting	81.31
13	Faculty is good at explaining things	80
14	I have been able to contact faculty when I needed to	77.7
15	Identify, formulate and analyze the complex engineering problems.	77.21
16	Overall I am satisfied with the quality of the course	81.48
17	Overall rating of the program	78.52
18	Proficient enough to communicate effectively in both verbal and written forms	79.02
19	Rate how challenging was the syllabus offered by the courses	81.8
20	Rate the adequateness of the textbooks and reference books mentioned for the courses	79.18
21	Rate the appropriateness of the sequence of the courses provided in the curriculum	81.48
22	Rate the depth of the syllabus of the courses in relation to the competencies expected by industry/ current global scenario.	80.82

Indore Institute of Science and Technology IQAC INDORE

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

INDORE INSTITUTE OF SCIENCE & TECHNOLOGY , INDORE

COURSE WISE FEED BACK REPORTS

College: IIST
Branch: BTech-IT
Sem: VIIth
Session: 2023-24
Generate

SNo	Question	Feedback
1	Ability to design and develop web-based solutions with effective graphical user interface for the need of sustainable development.	81.56
2	Ability to solve the social, cultural, ethical issues with IT solutions.	80.16
3	Ability to work individually and as a member or leader in diverse teams	79.53
4	Assessment and marking have been fair	81.25
5	Broadly educated and will have understanding of ethical responsibilities.	79.69
6	Capability to manage the software and IT based projects in multidisciplinary environments.	80
7	Capable of self-educate in case of technological change and to engage in independent life-long learning.	82.5
8	Course outcomes are clear in most courses.	83.28
9	Demonstrate basic knowledge in mathematics, science, engineering, and humanities.	81.41
10	Demonstrate with excellent programming, analytical, logical and problem-solving skills.	80.47
11	Design and develop the computer-based systems.	77.66
12	Faculty has made the subject interesting	79.22
13	Faculty is good at explaining things	79.22
14	I have been able to contact faculty when I needed to	83.28
15	Identify, formulate and analyze the complex engineering problems.	80
16	Overall I am satisfied with the quality of the course	81.72
17	Overall rating of the program	78.28
18	Proficient enough to communicate effectively in both verbal and written forms	80.16
19	Rate how challenging was the syllabus offered by the courses	76.09
20	Rate the adequateness of the textbooks and reference books mentioned for the courses	81.56
21	Rate the appropriateness of the sequence of the courses provided in the curriculum	78.28
22	Rate the depth of the syllabus of the courses in relation to the competencies expected by industry/ current global scenario.	82.19

INDORE INSTITUTE OF SCIENCE & TECHNOLOGY , INDORE

COURSE WISE FEED BACK REPORTS

College: IIST
Branch: BTech-IT
Sem: VIIth
Session: 2023-24
Generate

SNo	Question	Feedback
1	Ability to design and develop web-based solutions with effective graphical user interface for the need of sustainable development.	78.99
2	Ability to solve the social, cultural, ethical issues with IT solutions	78.03
3	Ability to work individually and as a member or leader in diverse teams	80.39
4	Assessment and marking have been fair	80.48
5	Broadly educated and will have understanding of ethical responsibilities.	79.31
6	Capability to manage the software and IT based projects in multidisciplinary environments.	79.52
7	Capable of self-educate in case of technological change and to engage in independent life-long learning.	79.41
8	Course outcomes are clear in most courses.	79.26
9	Demonstrate basic knowledge in mathematics, science, engineering, and humanities.	80.27
10	Demonstrate with excellent programming, analytical, logical and problem-solving skills.	82.02
11	Design and develop the computer-based systems.	79.47
12	Faculty has made the subject interesting	80.32
13	Faculty is enthusiastic about what is taught	81.01
14	Faculty is good at explaining things	78.89
15	I have been able to contact faculty when I needed to	81.34
16	Identify, formulate and analyze the complex engineering problems.	79.63
17	Overall I am satisfied with the quality of the course	79.79
18	Overall rating of the program	80.05
19	Proficient enough to communicate effectively in both verbal and written forms	79.15
20	Rate how challenging was the syllabus offered by the courses	79.95
21	Rate the adequateness of the textbooks and reference books mentioned for the courses	79.95
22	Rate the appropriateness of the sequence of the courses provided in the curriculum	79.47

SNo	Question	Feedback

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

		I	II	III	IV	V	VI	VII	VIII
1	Ability to design and develop web-based solutions with effective graphical user interface for the need of sustainable development.	65.81	62.73	79.21	82.06	81.8	81.8	81.56	78.99
2	Ability to solve the social, cultural, ethical issues with IT solutions	69.03	63.18	79.37	82.7	77.7	77.7	80.16	80.39
3	Ability to work individually and as a member or leader in diverse teams	76.13	68.18	80	79.05	81.64	81.64	79.53	80.48
4	Assessment and marking have been fair	74.19	65.91	79.37	80.79	77.87	77.87	81.25	79.31
5	Broadly educated and will have understanding of ethical responsibilities.	71.61	64.55	77.94	80.48	79.67	79.67	79.69	79.52
6	Capability to manage the software and IT Based projects in multidisciplinary environments.	72.9	63.18	79.21	77.94	79.34	79.34	80	79.41
7	Capable of self-educate in case of technological change and to engage in independent life-long learning.	67.74	65.91	80.79	79.37	80.33	80.33	82.5	79.26
8	Course outcomes are clear in most courses.	69.03	67.73	80.32	80.32	79.67	79.67	83.28	80.27
9	Demonstrate basic knowledge in mathematics, science, engineering, and humanities.	72.9	69.09	80.48	79.52	78.03	78.03	81.41	82.02
10	Demonstrate with excellent	73.55	67.73	79.52	81.27	81.64	81.64	80.47	79.47

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

	programming, analytical, logical and problem-solving skills.								
11	Design and develop the computer-based systems.	70.32	66.36	80	82.06	78.2	78.2	77.66	80.32
12	Faculty has made the subject interesting	68.39	66.82	80.16	78.1	81.31	81.31	79.22	81.01
13	Faculty is good at explaining things	72.58	66.14	82.22	77.78	80	80	79.22	81.34
14	I have been able to contact faculty when I needed to	81.94	68.64	80.95	80.48	77.7	77.7	83.28	79.63
15	Identify, formulate and analyze the complex engineering problems.	76.13	62.73	81.11	80.16	77.21	77.21	80	79.79
16	Overall I am satisfied with the quality of the course	69.68	67.73	81.59	80.95	81.48	81.48	81.72	80.05
17	Overall rating of the program	71.61	70.45	77.94	79.05	78.52	78.52	78.28	79.15
18	Proficient enough to communicate effectively in both verbal and written forms	75.48	70.45	78.89	79.68	79.02	79.02	80.16	79.95
19	Rate how challenging was the syllabus offered by the courses	71.61	68.18	80	81.11	81.8	81.8	76.09	79.95
20	Rate the adequateness of the textbooks and reference books mentioned for the courses	64.52	66.36	80.63	80	79.18	79.18	81.56	79.47
21	Rate the appropriateness of the sequence of the courses provided in the curriculum	70.32	65.91	78.89	79.21	81.48	81.48	78.28	79.26
22	Rate the depth of the syllabus of the courses in relation to the competencies	69.68	66.36	80.32	79.37	80.82	80.82	82.19	81.6

Indore Institute of Science and Technology * INDORE *

Principal
Indore Institute of Science and Technology, Indore

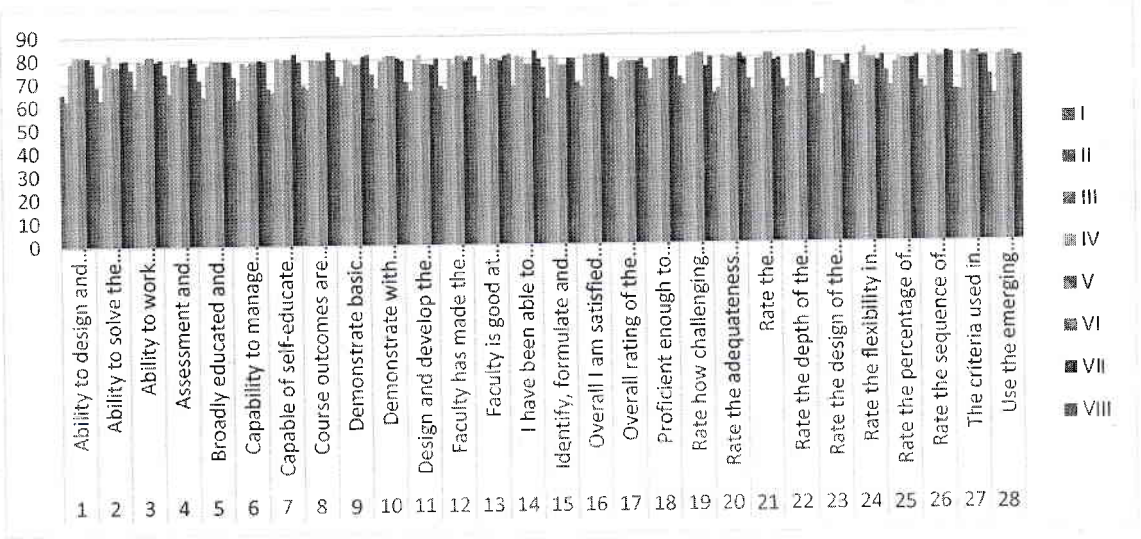
2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

	expected by industry/ current global scenario.								
23	Rate the design of the courses in terms of Training & Placement.	69.68	63.18	79.84	80.16	77.54	77.54	76.09	80.21
24	Rate the flexibility in choosing the electives in relation to technology advancements	69.03	66.82	81.27	83.49	79.02	79.02	77.97	80.11
25	Rate the percentage of learning ICT and Communication skills through courses offering	73.55	67.27	77.14	79.21	78.69	78.69	78.75	79.95
26	Rate the sequence of units/ modules in the courses in terms of Minor / Major projects.	69.03	65.91	79.52	81.43	79.18	79.18	81.72	80.96
27	The criteria used in assessment have been clearly stated in advance	65.16	65	81.11	79.84	81.64	81.64	79.69	79.63
28	Use the emerging technologies, skills, and modern software tools.	71.61	63.18	79.84	80.95	81.31	81.31	79.06	79.79

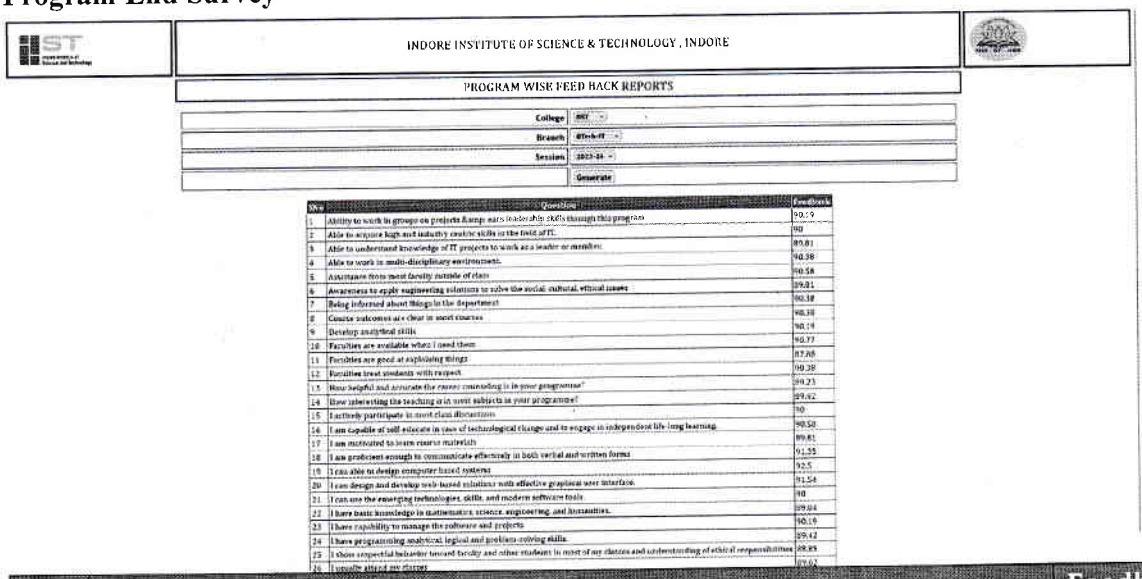
Indore Institute of Science and Technology * INDORE *

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute



Program End Survey


INDORE INSTITUTE OF SCIENCE & TECHNOLOGY , INDORE

PROGRAM WISE FEED BACK REPORTS

College

Branch

Session

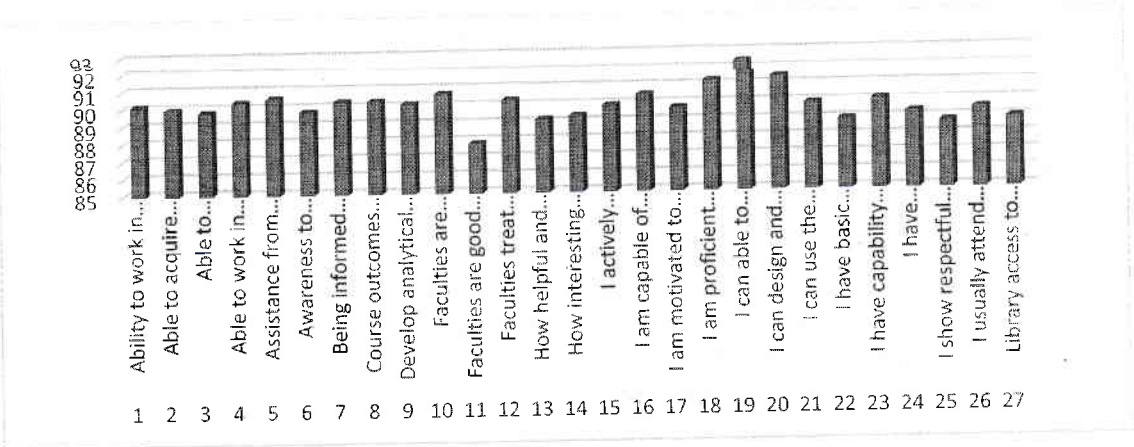
Generate

SNo	Question	Feedback
1	Ability to work in groups on projects & earn leadership skills through this program	90.19
2	Able to acquire high and industry centric skills in the field of IT.	90
3	Able to understand knowledge of IT projects to work as a leader or member.	89.81
4	Able to work in multi-disciplinary environment.	90.38
5	Assistance from most faculty outside of class	90.58
6	Awareness to apply engineering solutions to solve the social, cultural, ethical issues	89.81

Principal
Indore Institute of Science and Technology, Indore

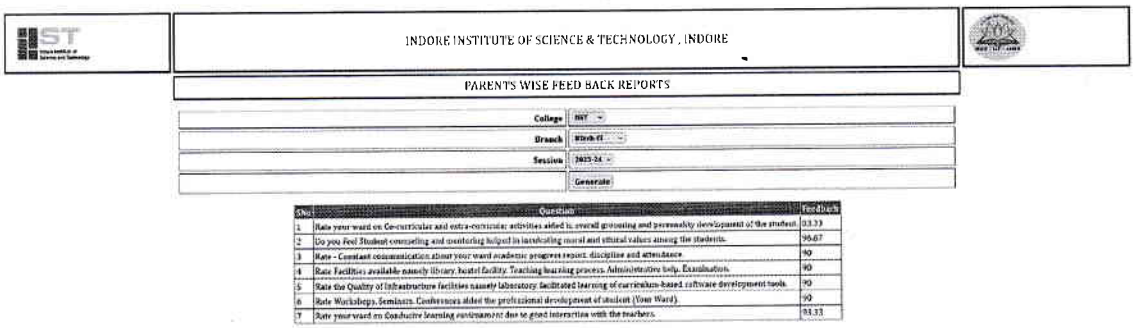
2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

7	Being informed about things in the department	90.38
8	Course outcomes are clear in most courses	90.38
9	Develop analytical skills	90.19
10	Faculties are available when I need them	90.77
11	Faculties are good at explaining things	87.88
12	Faculties treat students with respect.	90.38
13	How helpful and accurate the career counselling is in your programme?	89.23
14	How interesting the teaching is in most subjects in your programme?	89.42
15	I actively participate in most class discussions	90
16	I am capable of self-educate in case of technological change and to engage in independent life-long learning.	90.58
17	I am motivated to learn course materials	89.81
18	I am proficient enough to communicate effectively in both verbal and written forms	91.35
19	I can able to design computer based systems	92.5
20	I can design and develop web-based solutions with effective graphical user interface.	91.54
21	I can use the emerging technologies, skills, and modern software tools.	90
22	I have basic knowledge in mathematics, science, engineering, and humanities.	89.04
23	I have capability to manage the software and projects	90.19
24	I have programming analytical, logical and problem-solving skills.	89.42
25	I show respectful behaviour toward faculty and other students in most of my classes & understanding of ethical responsibilities	88.85
26	I usually attend my classes	89.62
27	Library access to reading materials	89.04



Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute



INDORE INSTITUTE OF SCIENCE & TECHNOLOGY, INDORE

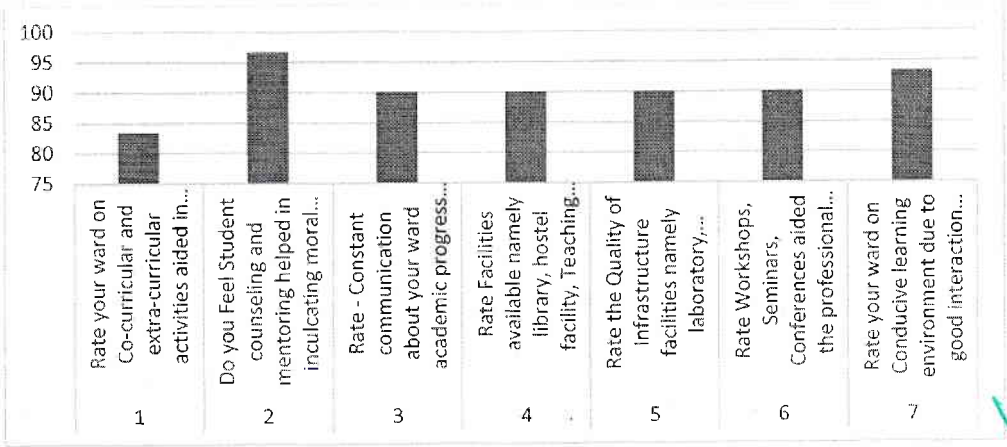
PARENTS WISE FEED BACK REPORTS

College: IIST
Branch: Mtech IT
Session: 2023-24
Generate

SNo	Question	Feedback
1	Rate your ward on Co-curricular and extra-curricular activities aided in overall grooming and personality development of the student.	83.33
2	Do you Feel Student counseling and mentoring helped in inculcating moral and ethical values among the students.	96.67
3	Rate - Constant communication about your ward academic progress report, discipline and attendance.	90
4	Rate Facilities available namely library, hostel facility, Teaching learning process, Administrative help, Examination.	90
5	Rate the Quality of Infrastructure facilities namely laboratory, facilitated learning of curriculum-based software development tools.	90
6	Rate Workshops, Seminars, Conferences aided the professional development of student (Your Ward).	90
7	Rate your ward on Conducive learning environment due to good interaction with the teachers.	93.33

Parent Survey

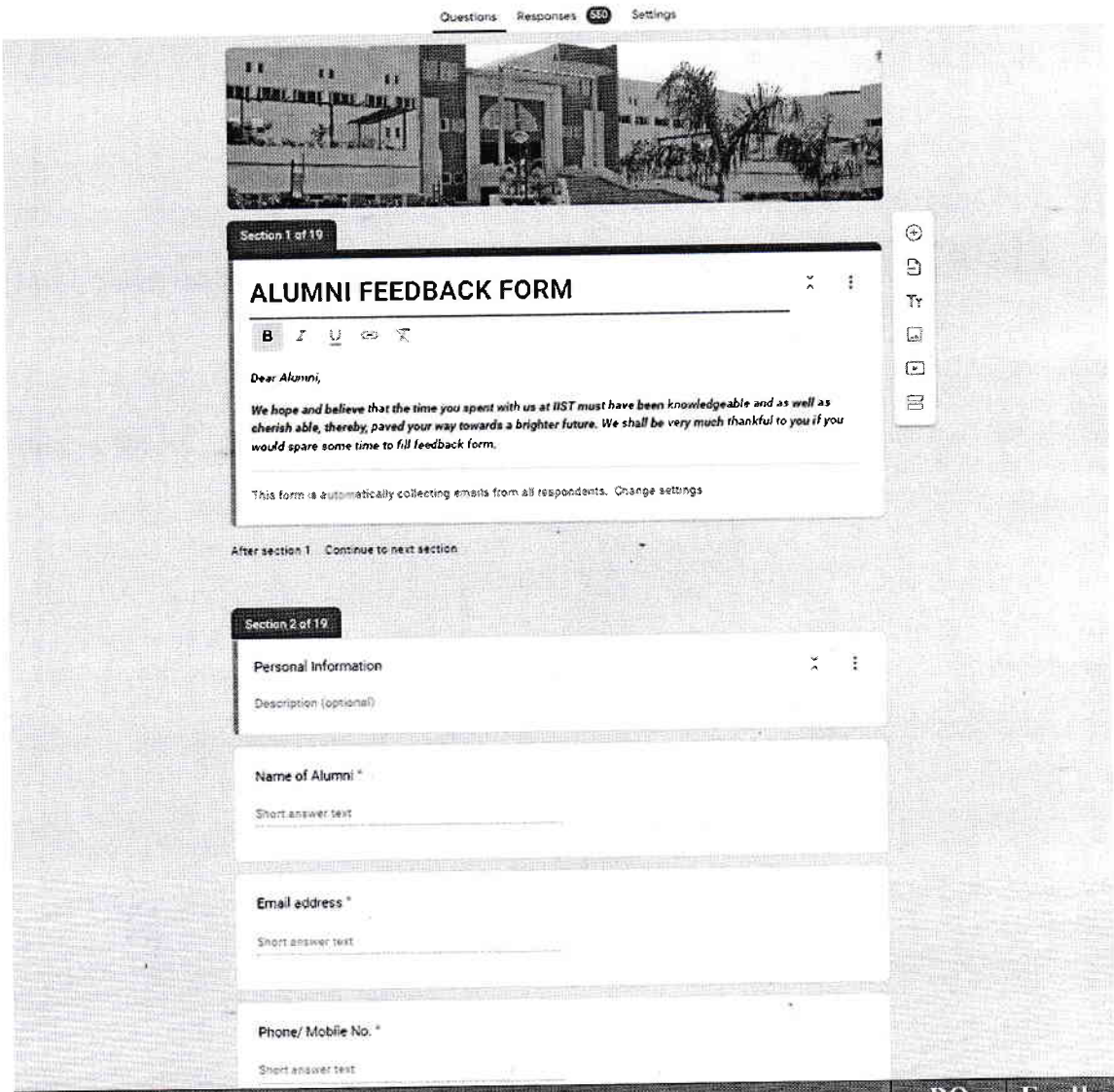
SNo	Question	Feedback
1	Rate your ward on Co-curricular and extra-curricular activities aided in overall grooming and personality development of the student.	83.33
2	Do you Feel Student counseling and mentoring helped in inculcating moral and ethical values among the students.	96.67
3	Rate - Constant communication about your ward academic progress report, discipline and attendance.	90
4	Rate Facilities available namely library, hostel facility, Teaching learning process, Administrative help, Examination.	90
5	Rate the Quality of Infrastructure facilities namely laboratory, facilitated learning of curriculum-based software development tools.	90
6	Rate Workshops, Seminars, Conferences aided the professional development of student (Your Ward).	90
7	Rate your ward on Conducive learning environment due to good interaction with the teachers.	93.33



Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

Alumni Survey

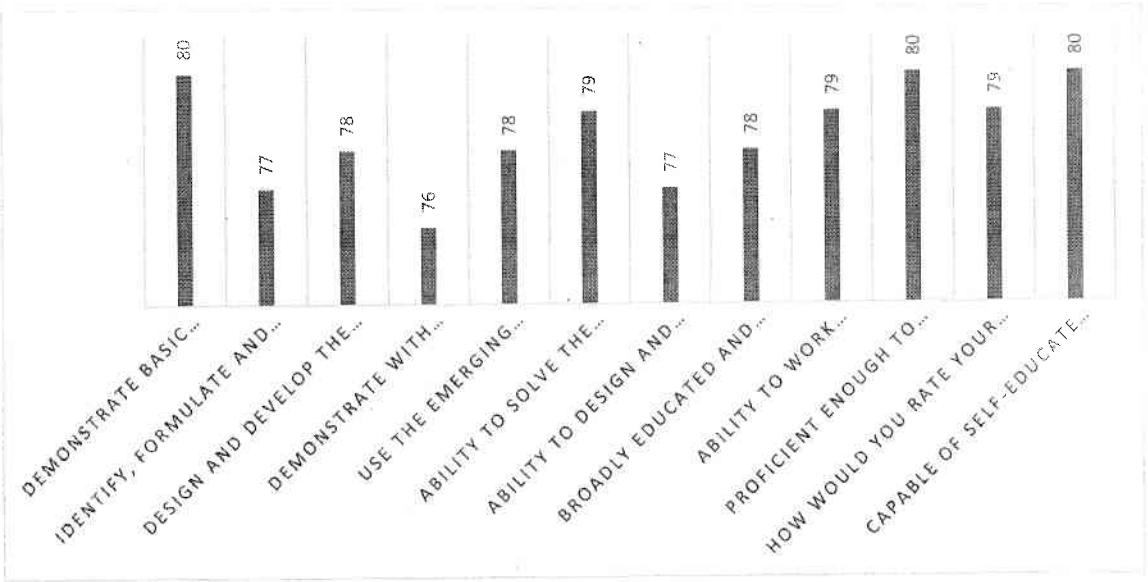


SNo	Question	PO	Feedback
1	Demonstrate basic knowledge in mathematics, science, engineering, and humanities.	PO1	80
2	Identify, formulate and analyze the complex engineering problems.	PO2	77
3	Design and develop the computer-based systems.	PO3	78
4	Demonstrate with excellent programming, analytical, logical and problem-solving skills.	PO4	76

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

5	Use the emerging technologies, skills, and modern software tools.	PO5	78
6	Ability to solve the social, cultural, ethical issues with IT solutions.	PO6	79
7	Ability to design and develop web-based solutions with effective graphical user interface for the need of sustainable development.	PO7	77
8	Broadly educated and will have understanding of ethical responsibilities.	PO8	78
9	Ability to work individually and as a member or leader in diverse teams	PO9	79
10	Proficient enough to communicate effectively in both verbal and written forms	PO10	80
11	How would you rate your ability in applying Engineering principles as a member and leader in a team, to manage projects in multidisciplinary environments?	PO11	79
12	Capable of self-educate in case of technological change and to engage in independent life-long learning.	PO12	80

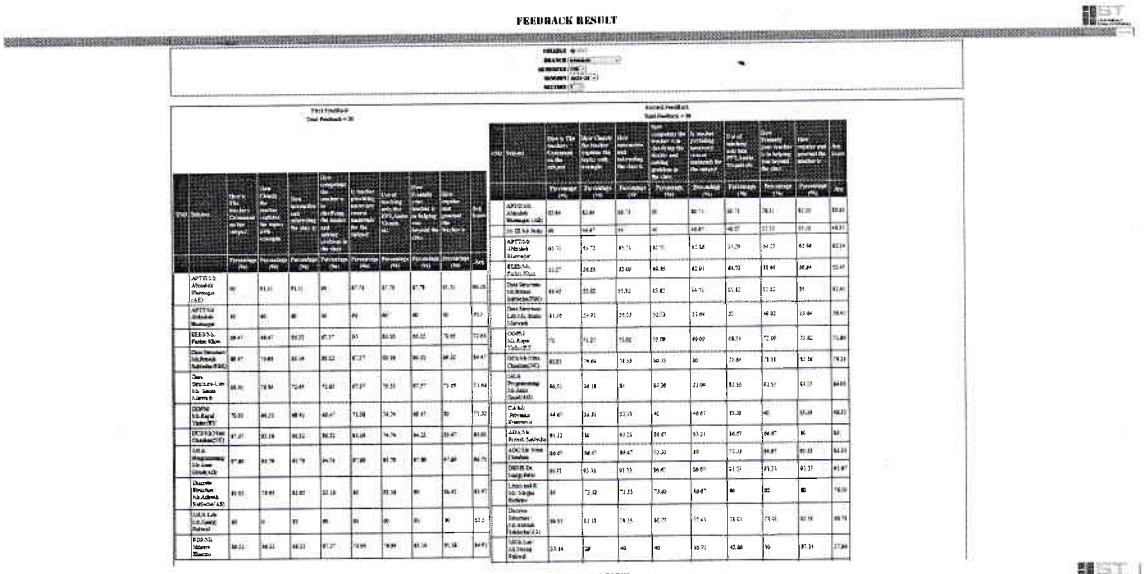


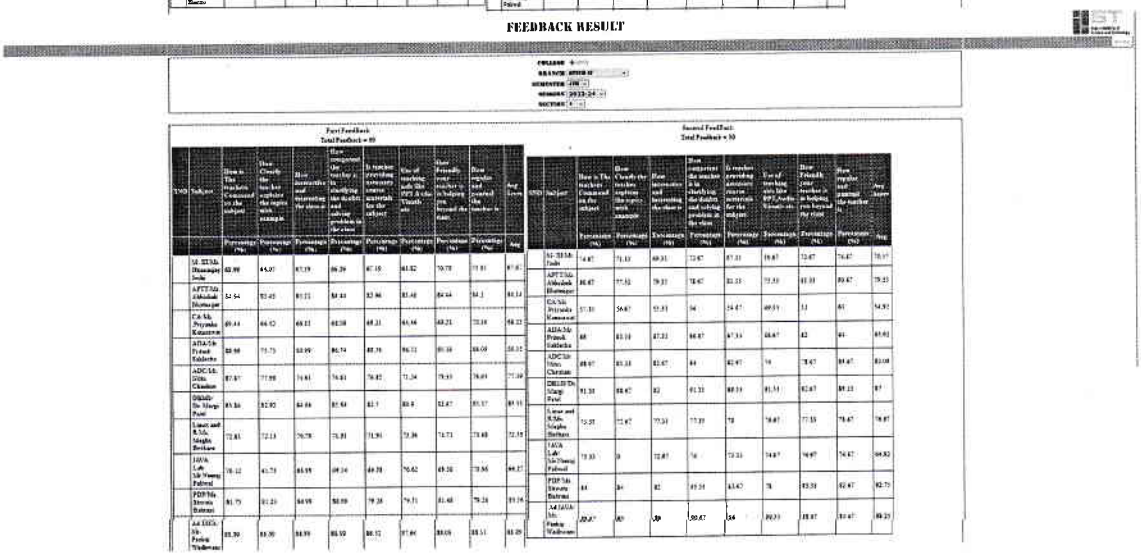
Academic Feedback

Principal
Indore Institute of Science and Technology, Indore

IQAC

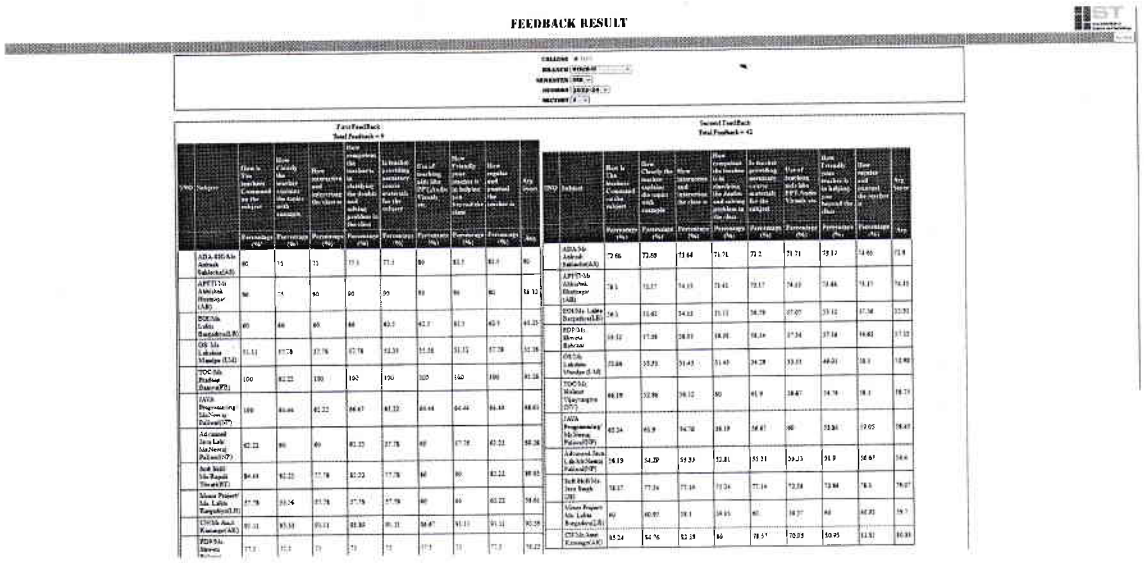
2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute


FEEDBACK RESULT


FEEDBACK RESULT

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute


FEEDBACK RESULT

DEPARTMENT OF INFORMATION TECHNOLOGY

ACTION TAKEN REPORT BASED ON FEEDBACK 2023-2024

Category	Questions	Action Taken by Department
Semester/Course End Feedback including Curriculum Feedback	Ability to solve the social, cultural, ethical issues with IT solutions	Students are motivated to participate in National-level competitions like hackathons that act as catalysts for innovation by combining technical expertise with a focus on societal impact. They empower students to tackle pressing social, cultural, and ethical challenges through scalable and sustainable IT solutions.
	Rate the adequateness of the textbooks and reference books mentioned for the courses	Faculties offer additional resources like notes, PPTs, practice questions, case studies so that the topics with sufficient depth a comprehensive understanding of the subject is provided to students.
	Rate the design of the courses in terms of Training & Placement.	Institute has well designed SIGs that not only impart

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

		technical knowledge but also to develop well-rounded professionals ready for the challenges of the modern workplace. Its structured approach to technical education, practical experience, and soft skills training ensures students are highly employable and prepared for successful careers.
Program End	I show respectful behavior toward faculty and other students in most of my classes & understanding of ethical responsibilities	Sessions on ethics, led by Career development cell are taken, to discuss real-world implications of ethical breaches and respectful behavior.
	Faculties are good at explaining things	Faculties use clear and concise language to convey complex ideas. They are motivated to adopt effective teaching methods, such as examples, analogies, or visual aids, to enhance understanding.
Alumni Survey	Demonstrate with excellent programming, analytical, logical and problem-solving skills.	To ensure excellent programming skills, Hands on sessions for all the sessions held under various SIGs are taken by trainers.
	Ability to design and develop web-based solutions with effective graphical user interface for the need of sustainable development.	Department ensures that student work together on web-based projects after completing the skill improvement training based on front end development.
	Identify, formulate and analyze the complex engineering problems.	To help students identify, formulate, and analyze complex engineering problems, a structured approach grounded in critical thinking, problem-solving techniques, and

Principal
Indore Institute of Science and Technology, Indore

2.6.2 – Attainment of Programme Outcomes and Course Outcomes are Evaluated by the Institute

		hands-on experience is provided by the department.
Academic Feedback	Faculty having less than 75% feedback	HoD and Principal keep on counselling such faculty and help them to prepare for lectures
Parents Feedback	Rate your ward on Co-curricular and extra-curricular activities aided in overall grooming and personality development of the student.	Holistic development of students is ensured through various clubs under Samagra Samutkarsh Yojna. Career development cell ensures that over all grooming of a student starts from first to final year.

Signature of HOD

Signature of Principal

Principal
Indore Institute of Science and Technology, Indore

IQAC

Principal
Indore Institute of Science and Technology, Indore