

## INSTITUTE OF TECHNOLOGY & MANAGEMENT, <u>GWALIOR</u>

# IQAC Guidelines for Evaluating the Attainment of POs and COs

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श्रेष्ठ इंडस्ट्री इन्टरफेस के लिए CMAI, AICTE & RGPV द्वारा पुरस्कृत

## **Assessment Process Report**

### Academic Year 2020-2021

#### 1. PROGRAM OUTCOMES AND PROGRAM SPECIFIC

Program outcomes are statements that describe the knowledge, skills, abilities, and attributes that students are expected to have acquired by the time they complete a program of study. These outcomes are designed to reflect the broader educational goals and objectives of the program, and they guide the curriculum, teaching methods, and assessment strategies throughout the program.

POs are statements that describe what the students graduating from engineering programs should be able to do at the time of graduation

The NBA (National Board of Accreditation) has set 12 Program Outcomes, which are as follows:

#### A. Program Outcomes (POs)

- 1. **Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- 2. **Problem analyses**: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- 3. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for public health and safety, and the cultural, societal, and environmental considerations.

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

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#### **B.** Program-Specific Outcomes (PSOs) (Sample of CSE Dept)

PSOs are statements that describe what the graduates of a specific engineering program should be able to do at the time of graduation. There are three PSOs which are as follows:

**PSO1**: The ability to understand the principles of computer hardware and software to analyze, design, and develop algorithms for complex and logical problems.

**PSO2**: Enhance programming concepts and professional competencies of students by exercising principles of software engineering to fix various computational problems.

**PSO3**: To implement emerging technologies such as the internet of things, cloud computing, artificial intelligence, machine learning, etc. to serve society.

#### C. Course Outcomes (COs)

Course outcomes, also referred to as learning outcomes or objectives, are statements that outline the knowledge, understanding, and skills students should possess by the end of a course or program. These outcomes specify the expected competencies, abilities, and attitudes students should develop through their learning experiences.

Serving as a foundation for instructional design and delivery, course outcomes provide a clear and measurable focus for both educators and students, guiding the teaching and learning process. By clearly defining these outcomes, course designers can ensure that instructional strategies, assessments, and learning activities are aligned to actively engage students in achieving the desired results.

The development of course outcomes begins with a thorough understanding of the subject matter and the educational objectives of the program or institution. These outcomes should be specific, observable, measurable, and attainable, reflecting the broader goals of the curriculum and addressing the cognitive, affective, and psychomotor domains of learning. A sample is presented in Table 1.

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Table.1	Table.1 (Sample of course outcomes)										
Course Name: C303 (Data Structure)	Year of Study: 2020-21										
C303.1	Ability to define, and understand concepts of different categories of data structures.										
C303.2	Identify different parameters to analyze the performance of an algorithm.										
C303.3	Design algorithms to perform operations with linear and nonlinear data structures.										
C303.4	Compare and contrast different implementations of data structures.										
C303.5	Apply appropriate data structure to solve and implement various real-time problems.										

## **D.** Course Outcome mapping with Program Outcomes according to new AICTE Exam Reform Policy

The detailed procedure for mapping COs with the POs and PSOs of CSE Dept. by using AICTE Exam Reform Policy is mentioned below in annexure 1. Table 2 depicts a sample of this matrix

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Table 2: Mapping with Course Outcomes and Program Outcomes												Outco	omes		-	
Course	Course Out	<b>P01</b>	P02	<b>P03</b>	<b>P04</b>	P05	<b>P06</b>	<b>P07</b>	<b>P08</b>	P09	P010	<b>P011</b>	P012	PSO1	PSO2	PSO3
CS303.1	Ability to Define, understand concepts of different categories of data Structures	2	1	-	1	1	-		-		-	-	-	-	-	-
CS303.2	Identify different parameters to analyze the performan ce of an algorithm.	2	1	-	1	1	-	-	-	-	-	-	-	1	1	-
CS303.3	Design algorithms to perform operations with Linear and Nonlinear data structures	2	1	-	1	1	-	-	-	-		-	-	1	1	-
CS303.4	Compare and contrast different implement ations of data structures.	1	1	-	1	1	-	-	1	-	1	-	-	-	2	-
C\$303.5	Apply appropriat e data structure to solve and implement various real time problems.	1	1	1	1	1	-	-	-	-	1	-	-	-	2	-
Average		1.6	1	1	1	1	-	-	1	-	1	-	-	1	1.5	-

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#### 2. PROGRAMME ASSESSMENT PROCESSES & ATTAINMENT TOOLS

A comprehensive and continuous assessment system is in place to actively engage students in their learning journey and enhance their participation in acquiring knowledge. This system includes various components designed to improve students' ability to demonstrate both technical knowledge and personal attributes. Key elements of this system comprise theory sessions, assignments, quizzes, mid-term exams, and Activity-Based Continuous Assessments (ABCAs) such as presentations, open-book assessments, and question framing, as well as project-based learning (PBL) and projects. To further strengthen the system's effectiveness, we also utilize Course Exit Surveys, Graduate/Exit Surveys, Alumni Surveys, Employer Surveys, and other evaluative measures.

#### 2.1. Assessment processes

The Assessment Processes used to gather the data upon which the evaluation of course outcome is based is constituted with

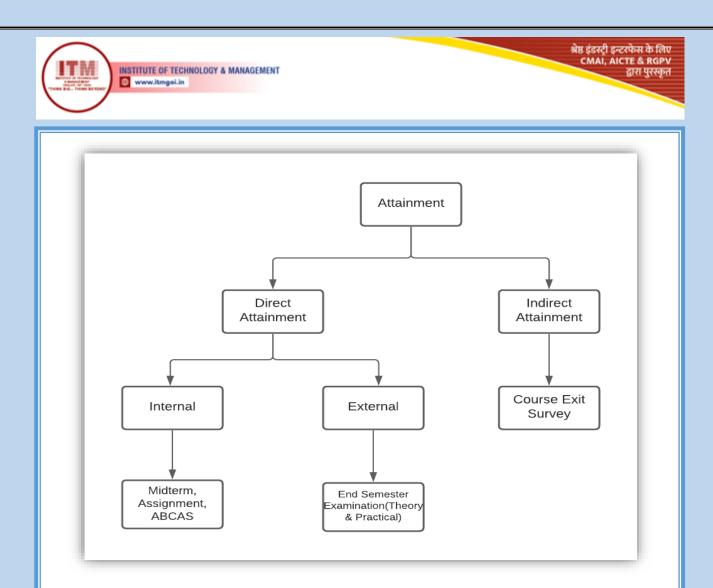
A. Direct Attainment (80%)

- Midterms, Quiz, ABCA, Viva, End Semester Examination
- B. Indirect Attainment (20%)
  - Course Exit Survey

Attainment of course outcome is computed by these two components, as shown in the Figure 1.1.

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#### **Figure 1.1 Attainment Calculation Process**

Direct assessment holds the share of 80% for the calculation of final attainment, whereas indirect assessment contains 20%.

#### Data collection for course result

The process of collecting course result data involves multiple steps and utilizes both the Management Information System (MIS) and Learning Management System (LMS). Here's an overview of the process:

• **Course Assignment to Faculty**: Courses are assigned to faculty members based on their expertise and specialization, ensuring that each course is taught by someone with the appropriate knowledge and skills in that subject area.

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- Data Storage in MIS and LMS: Faculty and student information is stored in the Management Information System (MIS) and Learning Management System (LMS). The MIS serves as a centralized database containing faculty profiles, student information, course details, and other relevant data. The LMS is an online platform used for managing course content, assessments, and tracking student progress.
- Attendance and Lecture Data Recording: Faculty members record daily student attendance and the lectures they conduct. This information is entered into the MIS, enabling easy tracking of student attendance and faculty activity.
- **Examinations and Evaluation**: When exams or tests are conducted, faculty members evaluate the answer scripts, grading and assigning scores based on student performance.
- **Result Upload in LMS**: After evaluation, the results are uploaded to the Learning Management System (LMS), allowing students to view their individual results online.
- **Result Storage and Presentation**: The LMS stores all result data, including individual student scores. This information is presented to students so they can review their grades and overall course performance.
- Data Access for Analysis: The stored data, which includes attendance records, lecture details, and exam results, is accessible for generating reports and analyzing student performance. This data provides valuable insights into student progress, highlights areas for improvement, and supports informed decision-making

#### A. Direct Attainment

Direct attainment is a prime assessment technique that includes the following

- Assignment
- Quiz
- Midterm

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- ✤ ABCAs
- Project-Based Learning(PBL)/Projects/Internship

#### **B. Indirect Attainment**

Indirect attainment accomplishes by conducting various surveys. Course Exit Survey is the prime constituent for the calculation, of course, indirect assessment.

- Course Exit Survey
- Graduate Exit Survey
- Alumni Survey
- Employer Survey

#### Direct Attainment (Assessment) Methods

**Assignment:** Assignments serve as a qualitative assessment tool to evaluate students' understanding of engineering practices, frameworks, and problem-solving skills. Students will be assigned a minimum of 2 and a maximum of 8 topics per subject.

**Quiz:** Multiple-choice question-based quizzes are administered, offering a user-friendly platform for both instructors and students during examinations.

**Midterm:** Midterm exams are integral to ensuring that students achieve both course and program outcomes. These exams are crucial in verifying that students who meet the program outcomes are eligible for certification. Each semester includes two midterm exams: one conducted offline and the other online.

**ABCAS** (Activity-Based Continuous Assessment System): Two activities are conducted each semester. Faculty members select activities based on their subject, choosing from options such as:

- Open book test
- ✤ Case study
- PPT/Poster presentation
- Simulation work, coding, virtual model creation, or dry runs
- Group discussion

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**Project-Based Learning (PBL)/Projects:** Students are divided into groups of up to four members, with each group being mentored by a faculty member. Projects are then evaluated by external examiners who conduct a viva-voce and assign grades based on the students' performance.

**Award of Credits and Grades:** The distribution of weight-age/marks for theory and practical components is outlined in Table 3 and Table 4.

#### **Theory fragment**

	Table: 3										
S. No	Particulars	Weightage %									
1	Quizzes, assignments and regularity	10%									
2	Mid –semester test	20%									
3	End –semester Exam	70%									
	Total	100%									

#### **Practical fragment**

Table: 4										
S. No	Particulars	Weightage %								
1	Lab work and performance, quizzes, assignments, and regularity	40%								
2.	End-semester examination	60%								
	Total	100%								

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		Table: 5	
Grade	%Marks range (based on absolute marks system)	Grade Point	Description of performance
A+	91-100	10	Outstanding
А	81-90	9	Excellent
B+	71-80	8	V. Good
В	61-70	7	Good
C+	51-60	6	Average
С	41-50	5	Satisfactory
D	31-40	4	Marginal
F	30 and Below	0	Fail
Ι		0	Incomplete
W		0	Withdrawal

From the above table 5, it is clear that passing marks are 31%. From this passing marks out of 70 is equal to  $70x \ 31/100 = 21.7$  which is 22 marks.

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#### 2.2.Process to calculate course attainment

The Program shall have set Course Outcome attainment levels for all courses.

(The attainment levels shall be set considering average performance levels in the university examination or any higher value set as target for the assessment years. Attainment level is to be measured in terms of student performance in internal assessments concerning the Course Outcomes of a course in addition to the performance in the University examination)

The Direct Attainment of Course Outcome is evaluated under two categories – University Assessment and Internal Assessment.

a) Measuring Course Outcomes attained through University Examinations

Attainment Level for External Assessment Exam

Table	: 6
Percentage Of students	Attainment Level
scoring more than 60	
marks	
>=60%	1
>=70%	2
>=80%	3

#### **Attainments levels**

i. Level 1:- 60% of students score 60% marks or more.

ii. Level 2:-70% of students score 60% of marks or more

iii. Level 3:-80% of students score 60% of marks or more

b) Measuring CO attainment through Internal Assessments: (The examples indicated are for reference only. Program may appropriately define levels)

#### Attainment Level for Internal Assessment Exam

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Table	e: 7
Percentage Of students	Attainment Level
scoring more than 60	
marks	
>=60%	1
>=70%	2
>=80%	3

#### **Attainments Levels**

- i. Level 1:- 60% of students score 60% marks or more.
- ii. Level 2:- 70% of students score 60% of marks or more
- iii. Level 3:- 80% of students score 60% of marks or more

#### Direct Course Attainment calculation for Internal and External Exam

Here we are giving 40% weightage to internal assessment and 60% weightage to external due to the following reason:

- Internal examinations are more meticulously check.
- University question papers have internal choices for which the Cos are not well defined in the syllabus.
- The question paper of RGPV is still not aligned with the AICTE exam reform policy. Weightage given to Internal Assessment = 40%

Weightage given to External Assessment = 60%

**Total Direct attainment assessment** = (Internal Assessment in COs)\*0.4 +

(External Assessment in COs)\*0.6

#### Indirect Course Attainment is evaluated by using course exit survey

Indirect attainment is evaluated through Course Exit Surveys conducted after

course completion, gathering students' feedback on their learning experience.

#### **Overall Course Attainment calculation**

With the help of threshold value (60% of marks) the attainment of each CO

related to Internals (Midterm1, Midterm2, Assignment, ABCA Activity1, ABCA

Activity 2) and external (End Sem. marks, External viva) marks are calculated.

**Overall CO Attainment Level** = Direct CO Attainment ×0.8 + Indirect CO Attainment

×0.2

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The detailed calculation for CO attainment are provided in the denie Coredinator IQAC

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### 3. ATTAINMENT OF PROGRAM OUTCOMES AND PROGRAM SPECIFIC OUTCOMES

#### **Direct Assessment**

The Direct attainment level of a PO / PSO is determined by the following procedure

a) For a given core course calculate the CO attainment and also consider the correlation matrix of COs with POs.

(For example, consider a Course (Data Structure of CSE Dept.) and POs, the attainment levels of the COs for this course, and the correlation levels with POs are shown below in Table No.8)

Course CS303, Data Structure in II Year III Semester 2020-21 shown in table 8.

Course	Atta	Р	<b>P0</b>	PSO	PSO	PSO										
	inm	01	2	3	4	5	6	7	8	9	10	11	12	1	2	3
	ent															
	level															
CS303.1	2.17	2	1	-	1	1	-	-	-	-	-	-	-	-	-	-
CS303.2	2.18	2	1	-	1	1	-	-	-	-	-	-	-	1	1	-
CS303.3	2.06	2	1	-	1	1	-	-	-	-	-	-	-	1	1	-
CS303.4	2.26	1	1	-	1	1	-	-	1	-	1	-	-	-	2	-
CS303.5	2.06	1	1	1	1	1	1	I	-	-	1	-	-	-	2	-
Average	2.14	1.6	1.0	1.0	1.0	1.0	-	-	1.0	-	1.0	-	-	1.0	15	-

Table 0

b) To determine the Attainment level for PO5 from this course, the CO attainment level for each CO is multiplied with the corresponding Correlation levels. Their sum is then divided by the sum of the correlation levels. Only the COs (CS303.1, CS303.3, CS303.4, CS502.5) which correlate with the PO (PO5) are considered in the calculation. Hence attainment level for PO1, for this Course is obtained as

Attainment level for PO5 from the course = (2.17\*1 + 2.18\*1 + 2.06\*1 + 2.26\*1+2.06\*1) / (1+1+1+1+1) = 2.15

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- c) Similarly, the attainment levels for all POs/PSOs are determined for this course.
- d) For direct assessment, the average attainment levels from all courses are calculated.

#### **Indirect** Assessment

Indirect assessment of POs & PSOs is evaluated by the following assessment tools:

- i. Graduate exit survey (20%)
- ii. Alumni Survey (20%)
- iii. Employer Survey (20%)

The survey questions are based on the POs and PSOs of the program. Students are given ratings of 3(High), 2(Moderate), and 1(Low) to indicate the attainment of POs /PSOs. The attainment level from exit surveys is then calculated as

Attainment level = (N1\*3 + N2\*2 + N3\*1) / (N1+N2+N3)

**Total PO Attainment** = 80% of Direct attainment + 20% of Indirect attainment

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#### CONCLUSION

In conclusion, this document outlines a comprehensive framework for assessing and achieving Program Outcomes (POs), Program-Specific Outcomes (PSOs), and Course Outcomes (COs) within the engineering curriculum. By defining clear and measurable outcomes, the program ensures that students acquire the necessary knowledge, skills, and attributes essential for their professional development.

The assessment process is robust, incorporating both direct and indirect methods to provide a well-rounded evaluation of student performance. The use of assignments, quizzes, midterms, ABCAs, and Project-Based Learning (PBL) ensures continuous engagement and assessment, while the incorporation of various surveys (Course Exit, Graduate Exit, Alumni, and Employer) provides valuable feedback for ongoing program improvement.

The integration of these assessment tools and processes demonstrates a commitment to aligning educational objectives with industry standards, ultimately fostering a culture of continuous learning and improvement. This systematic approach not only enhances the academic experience but also ensures that graduates are well-equipped to meet the challenges of the engineering profession.

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## Annexure 1

## CO\_PO\_PSOs mapping

of

**Data Structure Course** 

(July Dec 2020)



### According to New Exam Reform Policy, Mapping of CO's With PO's

Each PO contains Competencies and each Competency consists of Performance Indicator

Program Outcomes	C.No.	Compet encies	PI No.	Performanc e Indicators	CO1	CO2	CO3	<b>CO4</b>	CO5
		Demonstra te	1.1.1	Apply the knowledge of discrete structures, linear algebra, statistics and numerical techniques to solve problems	YES				
PO1: Engineering Knowledge: apply knowledge of mathematics, science, engineering fundamentalsandanengi neeringspecializationto thesolutionofcomplexe ngineeringproblems.	1.1	competenc e in mathemati cal modelling	1.1.2	Apply the concepts of probability, statistics and queuing theory in modelling of computer- based system, data and network protocols.					
	1.2	Demonstra te competenc e in basic sciences	1.2.1	Apply laws of natural science to an engineering problem					
	1.3	Demonstra te competenc e in engineerin g fundament als	1.3.1	Apply engineering fundamentals	YES	YES	YES	YES	YES
	1.4	Demonstra te competenc e in specialized engineerin g knowledge to the program	1.4.1	Apply theory and principles of computer science and engineering to solve an engineering problem	YES	YES	YES	YES	YES
PO2: Problem Analysis: identify, formulate, review	2.1	Demonstra te an ability to	2.1.1	Evaluate problem statements and		Academi		ator IQAC	
				Railway Station,	Institu	Co-ordin	logy & Man	anemont	20

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reaching substantiated principles of mathematics, natural sciences, and engineering sciences. In the second science of the second sc	research literature, and analyse complex engineering problems		identify and formulate		identifies objectives .					
2.1.3     algorithmic knowledge that applies to a given problem     algorithmic knowledge that applies to a given problem     algorithmic knowledge that applies to a given problem       2.2.1     best deframe the connected subsystems     computers       2.2.2     best deframe the connected subsystems     algorithmic resources.       Demonstra te an ability to formulate a solution plan and methodolo gi for an engineerin g problem     1       2.2.1     Demonstra te an ability to formulate a solution plan and methodolo approximation g problem     E       2.2.2     Demonstra te an ability to formulate a solution plan and methodolo approximation g problem     E       2.2.4     Demonstra te an ability to formulate a solution plan and methodolo approximation g problem     E       2.2.4     Demonstra te an ability to formulate a solution plan and methodolo approximation g problem     E       2.2.4     Demonstra te an ability to formulate alternative solution/metho ds to select the best methods     E       Demonstra te an engineerin g problem     2.2.4     Demonstra te an alternative solution/metho ds to select the best process to select the best process t	reaching substantiated conclusions using first principles of mathematics, natural sciences, and		engineerin	2.1.2	processes/mod ules/algorithm s of a computer- based system and parameters to solve a	YES	YES	YES	YES	YES
2.2     Demonstrate and asolution inter connected subsystems     1     1     1       2.2.1     Demonstrate and iteration inter connected subsystems     1     1     1       2.2.2     Demonstrate and iteration inter connected subsystems     1     1     1       2.2.1     Demonstrate and iteration inter connected subsystems     1     1     1       2.2.2     Demonstrate and iteration inter connected subsystems     1     1     1       2.2.1     Demonstrate and iteration inter connected subsystems     1     1     1       1     Demonstrate and iteration inter connected subsystems     1     1     1       2.2.2     Identify existing solution/metho ds to solve the problem, including forming justified approximation s and and contrast alternative solution/metho ds to select the best methods     1     1       2.2.4     Solution inter to solutinto inter to solutin inter to solution inter to solution i				2.1.3	mathematical algorithmic knowledge that applies to a given problem					
2.2       Identify functionalities and computing resources.       Identify functionalities and computing resources.         2.2.2       Demonstra te an ability to formulate a solution plan and methodolo gy for an engineerin g problem       Identify functionalities and contrast alternative solution/metho ds to solve the problem.       E         2.2.3       Compare and contrast alternative solution/metho ds to select the best methods       E       E         2.2.4       Compare and contrast alternative solution/metho ds to select the best methods       E       E         2.2.4       Solution/metho ds to select the best methods       E       E         2.2.5       Solution processes to select the best process to select the best procentators (LACE tothotot selectors to the proc				2.2.1	computer- based system into inter connected					
2.2       Demonstrate a ability to formulate a solution plan and methodolo gy for an engineerin g problem       2.2.3       including forming justified assumptions       F         2.2.4       2.2.4       Compare and contrast alternative solution/metho ds to select the best methods       Compare and contrast alternative solution/metho ds to select the best processes to select the best proceses to select the best proceseses to select the best pr		2.2	te an ability to formulate a solution plan and methodolo gy for an engineerin	2.2.2	Identify functionalities and computing					
2.2.4       contrast alternative solution/metho ds to select the best methods       1         2.2.4       Compare and contrast alternative 2.2.5       Compare and contrast alternative 2.2.5       1         2.2.5       Solution processes to select the best process       1       1         Dean Academic/ Coordinator IQAC       Co-ordinator, IQAC       1         Compute of Technology & Management       21         ITM Campus, NH-75, Opposite Sithouli Railway Station, Gwalior (N.P.)       21				2.2.3	existing solution/metho ds to solve the problem, including forming justified approximation s and			YES		
contrast alternative       alternative         2.2.5       solution processes to select the best process       (Dr. S. S/Chauhan)         Dean Academic/ Coordinator IQAC       Co-ordinator, IQAC         Institute of Technology & Management       21         ITM Campus, NH-75, Opposite Sithouli Railway Station, Gwalior (M.P.19495001, India       21				2.2.4	Compare and contrast alternative solution/metho ds to select the					
Co-ordinator, IQAC Institute of Technology & Management ITM Campus, NH-75, Opposite Sithouli Railway Station, Gwalior (M.P.194001, India				2.2.5	contrast alternative solution processes to select the best					
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E-mail: <u>directoritmoffice@itmgoi.in</u> , web: <u>www.itmgoi.in</u>	ITM Cam					Gwalio	(M.P.)-	4 <b>950</b> 01	<sup>agement</sup> , India	21

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	2.3	Demonstra te an ability to formulate and interpret a model	2.3.1	Able to apply computer engineering principles to formulate modules of a system with required applicability and performance.					
		moder	2.3.2	Identify design constraints for required performance criteria.					
			2.4.1	Applies engineering mathematics to implement the solution.					
	2.4	Demonstra te an ability to execute a solution process and analyse results	2.4.2	Analyse and interpret the results using contemporary tools.					
			2.4.3	Identify the limitations of the solution and sources/causes.					
			2.4.4	Arrive at conclusions with respect to the objectives			YES	YES	
PO3:Design &DevelopmentofSoluti ons:designsolutionsforc omplexengineeringpro		Demonstra te an	3.1.1	Able to define a precise problem statement with objectives and scope.					
blemsand designsystemcompone ntsorprocessesthatmeet thespecifiedneedswitha ppropriateconsideration for the public health and safety, and the cultural, societal, and environmental considerations.	3.1	ability to define a complex/ open- ended problem in engineerin g terms	3.1.2	Able to identify and document system requirements from stake- holders.					
			3.1.3	Able to review state-of-the-art literature to synthesize		Academ	ator 10	ator IQAC	
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				system requirements.					
				Able to choose					
				appropriate					
				quality					
		3.1.4	attributes as						
				defined by ISO/IEC/IEEE					
				standard.					
				Explore and					
				synthesize					
				system					
			3.1.5	requirements					
				from larger social and					
				professional					
				concerns.					
				Able to					
				develop					
			3.1.6	software					
				requirement					
			specifications (SRS).						
			Able to						
		3.2.1	explore design						
		Demonstra te an		alternatives.					
				Able to					
				produce a					
		Demonstra		variety of					
		te an	3.2.2	potential design					
		ability to	5.2.2	solutions					
	3.2	generate a		suited to meet					
	5.2	diverse set of		functional					
		alternative		requirements.					
		design		Identify suitable non-					
		solutions		functional					
				requirements					
			3.2.3	for evaluation					
				of alternate					
				design					
				solutions. Able to					
	Demonstra		perform to						
		te an		systematic					
		ability to		evaluation of					
	3.3 select optimal design scheme for further	3.3.1	the degree to		K				
			which several		A				
			design						
			concepts meet the criteria.			14/			
		developme		Consult with		(Dr.S.S	) Chauha	n)	
		nt	3.3.2	domain experts		Academi	c/ Coordir	ator IQAC	
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				and stakeholders to select candidate engineering design solution for further					
		Demonstra te an ability to	3.4.1	developmentAble to refine architecture design into a detailed design within the existing constraints.					YES
	3.4	advance an engineerin g design to defined end state	3.4.2	Able to implement and integrate the modules.					
			3.4.3	Able to verify the functionalities and validate the design.					
		Demonstra te an ability to conduct	4.1.1	Define a problem for purposes of investigation, its scope and importance	YES				
PO4: Conduct Investigation of Complex Problems: Use research-based knowledge and	4.1	investigati ons of technical issues consistent with their level of	4.1.2	Able to choose appropriate procedure/algo rithm, dataset and test cases.	YES	YES	YES	YES	YES
research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide		knowledge and understand ing	4.1.3	Able to choose appropriate hardware/soft ware tools to conduct the experiment.					
valid conclusions.	4.2	Demonstra te an ability to design experiment s to solve open- ended problems	4.2.1	Design and develop appropriate procedures/me thodologies based on the study objectives	Dear		Chauhan		YES
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			4.3.1	Use appropriate procedures, tools and techniques to collect and analyse data					
		4.6 Demonstra	4.3.2	Critically analyse data for trends and correlations, stating possible errors and limitations					
	4.3	te an ability to analyse data and reach a valid conclusion	4.3.3	Represent data (in tabular and/or graphical forms) so as to facilitate analysis and explanation of the data, and drawing of conclusions					
			4.3.4	Synthesize information and knowledge about the problem from the raw data to reach appropriate conclusions					
PO5: Modern Tools Usage: create, select and apply appropriate techniques, resources, and modern engineering and IT tools including	5.1	Demonstra te an ability to identify/cr eate modern	5.1.1	Identify modern engineering tools, techniques and resources for engineering activities					
tools including prediction and modelling to complex engineering activities with an understanding of the limitations.		engineerin g tools, techniques and resources	5.1.2	Create/adapt/m odify/extend tools and techniques to solve engineering problems	YES	YES	YES	YES	YES

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	5.2	Demonstra te an ability to select and apply discipline specific tools, techniques and resources	5.2.1	Identify the strengths and limitations of tools for (i) acquiring information, (ii) modelling and simulating, (iii) monitoring system performance, and (iv) creating engineering designs.					
			5.2.2	Demonstrate proficiency in using discipline- specific tools					
		Demonstra te an ability to evaluate the	5.3.1	Discuss limitations and validate tools, techniques and resources					
	5.3	suitability and limitations of tools used to solve an engineerin g problem	5.3.2	Verify the credibility of results from tool use with reference to the accuracy and limitations, and the assumptions inherent in their use.					
PO6: The Engineer and Society: apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.	6.1	Demonstra te an ability to describe engineerin g roles in a broader context, e.g. pertaining to the environme nt, health,	6.1.1	Identify and describe various engineering roles; particularly as pertains to protection of the public and public interest at the global, regional and local level	Dean /	Academic	Chauha	ator IQAC	
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		safety, legal and public welfare							
	6.2	Demonstra te an understand ing of profession al engineerin g regulations , legislation and standards	6.2.1	Interpret legislation, regulations, codes, and standards relevant to your discipline and explain its contribution to the protection of the public					
		Demonstra te an understand ing of the impact of engineerin	7.1.1	Identify risks/impacts in the life- cycle of an engineering product or activity					
PO7: Environment & Sustainability: understand the impact of the professional engineering solutions in societal and	7.1	g and industrial practices on social, environme ntal and in economic contexts	7.1.2	Understand the relationship between the technical, socio- economic and environmental dimensions of sustainability					
environmental contexts, and demonstrate the knowledge of, and need for sustainable		Demonstra te an	7.2.1	Describe management techniques for sustainable development					
development.	7.2	ability to apply principles of sustainable design and developme nt	7.2.2	Apply principles of preventive engineering and sustainable development to an engineering activity or product relevant to the discipline		A			
PO8: Ethics: apply ethical principles and commit to professional ethics and	8.1	Demonstra te an ability to recognize	8.1.1	Identify situations of unethical professional			Chauha		
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11.111.1 1	1	ethical	r	1 ( 1		r			r
responsibilities and norms of engineering		dilemmas		conduct and propose ethical					
practice.				alternatives					
				Identify tenets					
		D	8.2.1	of the ASME					
		Demonstra te an		professional code of ethics					
		ability to		Examine and					
	8.2	apply the		apply moral &					
		Code of	8.2.2	ethical				YES	
		Ethics	0.2.2	principles to				Š	
				known case studies					
				Recognize a					
				variety of					
				working and					
			0.1.1	learning					
		Demonstra	9.1.1	preferences; appreciate the					
		te an		value of					
		ability to		diversity on a					
		form a		team					
	9.1	team and define a		Implement the norms of					
		role for		norms of practice (e.g.					
		each		rules, roles,					
		member	9.1.2	charters,					
			2.1.2	agendas, etc.)					
				of effective team work, to					
PO9: Individual &				accomplish a					
Team work: function				goal.					
effectively as an individual and as a				Demonstrate					
member or leader in		Demonstra		effective					
diverse teams, and in		te effective		communicatio n, problem-					
multidisciplinary		individual	9.2.1	solving,					
settings.		and team		conflict					
		operations-		resolution and					
		communic		leadership skills					
	9.2	ation,		Treat other					
		problem	9.2.2	team members					
		solving, conflict		respectfully					
		resolution	9.2.3	Listen to other					
		and		members Maintain					
		leadership	0.0.1	composure in					
		skills	9.2.4	difficult		A			
				situations					
		Demonstra		Present results			14 /		
	9.3	te success	9.3.1	as a team, with smooth			Chauha	n)	
		in a team-		integration of		Academi	c/ Coordir	ator IQAC	
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	based project		contributions from all individual efforts					
		10.1.1	Read, understand and interpret technical and non- technical information					
10.1	Demonstra te an ability to comprehen d technical literature and document	10.1.2	Produce clear, well- constructed, and well- supported written engineering documents					
	project work	10.1.3	Create flow in a document or presentation – a logical progression of ideas so that the main point is clear					YES
	Demonstra te competenc e in	10.2.1	Listen to and comprehend information, instructions, and viewpoints of others					
10.2	listening, speaking, and presentatio n	10.2.2	Deliver effective oral presentations to technical and non- technical audiences				YES	YES
10.3	Demonstra te the ability to integrate different	10.3.1	Create engineering- standard figures, reports and drawings to complement writing and presentations					
	different modes of communic ation	10.3.2	Use a variety of media effectively to convey a message in a document or a presentation	- (	Academi O-ordin	c/ Coordin	ator IQAC	
	10.2	projectproje	projectprojectprojectproject10.1.1Demonstra te an ability to comprehen d technical literature and document project work10.1.210.1.210.1.210.1.2Demonstra te competenc e in listening, speaking, and presentation n10.210.210.210.3Demonstra te competenc e in listening, speaking, and presentation n10.210.3	projectfrom all individual efforts10.11Form all individual efforts10.11Produce clear, well- comprehen d technical literature and document projectProduce clear, well- constructed, and well- suported written engineering documents10.12Demonstrate te an ability to comprehen d technical literature and document projectProduce clear, well- constructed, and well- suported written engineering documents10.12Demonstrate te in and documentCreate flow in a document or presentation - a logical progression of ideas so that the main point is clear10.21Demonstrate te in listening, speaking, and presentation nInternation, information, instructions, and viewpoints of others10.22Demonstrate te in listening, speaking, and presentation nInternation, information, instructions, and viewpoints of others10.23Demonstrate te integrate different modes of communic ationInternation, integrate different modes of communic ationInternation, integrate different modes of communic ation10.31Demonstrate te the ability to integrate different modes of communic ationInternation, integrate different modes of communic ation10.32Demonstrate effectively to complement writing and presentations ationInternation, integrate different modes of communic ation10.33Demonstrate e	projectfrom all individual efforts10.1Read, understand and interpret technical and non-technical information10.1Demonstra te an ability to comprehen d technical literature and document projectProduce clear, well- constructed, and well- supported writen engineering documents10.1Demonstra te an ability to comprehen d technical literature and documentProduce clear, well- constructed, and well- supported writen engineering documents10.1Demonstra te competenc e in listening, speaking, and presentation nProduce clear, well- constructed, and well- supported writen engineering documents10.2Demonstra te competenc e in listening, speaking, and presentation nListen to and comprehend instructions, and viewpoints of others10.3Demonstra te te integrate different modes of communic ationIo.2.2Deliver effective oral presentations to technical and non- technical and non- technical<	projectfrom all individual effortsfrom all individual efforts10.11Read, understand and interpret technical informationImage: construction information10.11Demonstra te an d technical literature and document projectProduce clear, well- constructed, and well- supported written engineering documentsProduce clear, well- constructed, and well- supported written engineering document or presentation - a logical progression of ideas so that the main point is clearImage: constructed, and well- supported written engineering document or presentation - a logical progression of ideas so that the main point is clearImage: constructed, and velney progression of a logical progression of information, instructions, and velney presentations to technical and velney presentations to technical and velney presentations to technical and on- technical and information, instructions, and velney presentations to technical and velney presentations to technical and information, instructions, and velney of othersImage: constructed, and velney information, instructions, and velney of othersImage: constructed, and velney information, instructions, and velney informations to technical and informations information integrateImage: constructed, and velney information, instructions, and velney informations to technical and informations informations to technical and informations information information integrateImage: constructed, information, instructions, and velney 	projectindividual effortsindividual efforts10.1Demonstra te an ability to comprehen ditechnical integrate and te an ability to comprehend interature and projectProduce clear, well- constructed, and well- supported writen engineering document or prosentation – a logical progression of ideas so that the main point is clearProduce clear, well- constructed, and well- supported writen engineering document or presentation – a logical progression of ideas so that the main point is clearProduce clear, well- constructed, and well- supported writen engineering document or presentation – a logical progression of ideas so that the main point is clearProduce clear, well- constructed, and so that the main point is clear10.2Demonstra te in presentation – a logical progression of ideas so that the main point is clearProduce clear, well- comprehend information, instructions, and viewpoints of othersProduce clear, well- comprehend information, instructions, and non- technical audiencesProduce clear, well- comprehend information, instructions, and non- technical audiencesProduce clear, well- comprehend information, instructions, and non- technical audiencesProduce clear, well- comprehend information, instructions, and non- technical audiencesProduce clear, well- comprehend information, information, instructions, and non- technical audiencesProduce clear, well- comprehend information, information, inform	projectfrom all individual effortsindividual efforts10.1Read, understand and interpret te an ability to comprehen document work10.1.1Read, understand and interpret tencical and non-technical informationimage: second information10.1Demonstra te an adocument project10.1.2Produce clear, well- onstrated, and well- supported writen engineering document or presentation - a logical progression of ideas so that the main point is clearimage: second ideas so that the main point is clearimage: second image: second information, <b< td=""></b<>

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				Describe various					
		Demonstra te an ability to evaluate the	11.1.1	economic and financial costs/benefits of an engineering					
	11.1	economic and financial performan ce of an engineerin g activity	11.1.2	activity Analyse different forms of financial statements to evaluate the financial status of an engineering project					
PO11: Project management & Finance: demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.	11.2	Demonstra te an ability to compare and contrast the costs/benef its of alternate proposals for an engineerin g activity	11.1.3	Analyse and select the most appropriate proposal based on economic and financial considerations.					
environnents.	11.3	Demonstra te an ability to plan/mana ge an engineerin	11.3.1	Identify the tasks required to complete an engineering activity, and the resources required to complete the tasks.					
	11.5	g activity within time and budget constraints	11.3.2	Use project management tools to schedule an engineering project, so it is completed on time and on budge		4			
PO12: Life-long Learning: recognize the need for, and have the preparation and ability to engage in	12.1	Demonstra te an ability to identify gaps in	12.1.1	Describe the rationale for the requirement for continuing	Dear	Academi	Chauha	ator IQAC	
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independent and life- long learning in the broadest context of technological change.		knowledge and a strategy to close these		professional development					
		gaps	12.1.2	Identify deficiencies or gaps in knowledge and demonstrate an ability to source information to close this gap					
	12.2	Demonstra te an ability to identify changing trends in	12.2.1	Identify historic points of technological advance in engineering that required practitioners to seek education in order to stay current					
		engineerin g knowledge and practice	12.2.2	Recognize the need and be able to clearly explain why it is vitally important to keep current regarding new developments in your field					
		Demonstra te an ability to	12.3.1	Source and comprehend technical literature and other credible sources of information					
	12.3	identify and access sources for new informatio n	12.3.2	Analyse sourced technical and popular information for feasibility, viability, sustainability, etc.					
PSO1		ty to understar hardware and		ciples of		Academi <del>C-ordin</del>	ator 10	ator IQAC	
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	to analyse, design and develop algorithms for complex and logical problems.				
PSO2	Enhance programming concepts and professional competencies of students by exercising principles of software engineering to fix various computational problems.	1	1	2	2
PSO3	To implement emerging technologies such as internet of things, cloud computing, artificial intelligence, machine learning etc. to serve the society.				

From the above mapping. Total No. of "YES" Mapped with PI's (Generated Matrix)

	CO1	CO2	CO3	CO4	CO5
PO1	3	2	2	2	2
PO2	1	1	3	2	1
PO3	0	0	0	0	1
PO4	2	1	1	1	2
PO5	1	1	1	1	1
PO6	0	0	0	0	0
<b>PO</b> 7	0	0	0	0	0
PO8	0	0	0	1	0
PO9	0	0	0	0	0
PO10	0	0	0	1	2
PO11	0	0	0	0	0
PO12	0	0	0	0	0
PSO1	0	1	1	0	0
PSO2	0	1	1	2	2
PSO3	0	0	0	0	0

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### Mapping Strength of Course Outcomes with Program Outcomes

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			PO	1.000	-	PC				PO		_		PO4			PO				P06		-	PO				P08			P09		-	PO10		-	PO1		+	PO12		PSC	D1 PSC	JZ PSC
Cours		IPIs	M.PI			M.F	'ls P	16		M.P					MG		M.PI	s MG			M.Pls		TPIs							TPIs	M.Pls		TPIs		MG		M.Pls		TPIs		s MG		+	
		5	3	2	14	+	-	÷	14	0		0	8	2		6	+ +	+		2	0	0	4	0			3	0	0	1	0	0	1	0	0	5	0	0	6	0	0	0	0	0
	CO2	5	2	2	14	1		+	14 14	0		0	8	1	1	6	1	+ 1		2	0	0	4	0			3	0	0	7	0	0	7	0	0	5	0	0	6	0	0	1	+	0
Outco	CO3	5	2	2	14	3		1		0		0	8	1		6				2	0	0	4	0			3	0	0		0	0	1	0	0	5	0	0	6	0	0	1	+ 1	0
mes	CO4 CO5	5	2	2	14	2	-	÷	14 14	0	+	0	8	2	+	6		+		2	0	0	4	0			3	0	0	1	0	0	1	-	1	5		0	6	0	0	0	2	
	CUS	5	4	2	14	+ '	+	<u> </u>	14		+	•	8	6	<u> </u>	ь		<u> </u>	_	2	0	U	4	0		'	3	U	U		U	U		2		5	0	U	+-	+-	U	10	2	0
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### **CO-PO-PSO Mapping matrix**

Course	Course Outcomes	P01	P02	P03	P04	P05	P06	P07	P08	P09	P010	P011	P012	PS01	PSO2	P\$03
CS303.1	Ability to Define, understand concepts of different categories of data Structures to analyze the data.	2	1	0	1	1	0	0	0	0	0	0	0	0	0	0
CS303.2	Identify different parameters to analyze the performance of an algorithm.	2	1	0	1	1	0	0	0	0	0	0	0	1	1	0
CS303.3	Design algorithms to perform operations with Linear and Nonlinear data structures	2	1	0	1	1	0	0	0	0	0	0	0	1	1	0
CS303.4	Compare and contrast different implementations of data structures.	2	1	0	1	1	0	0	1	0	1	0	0	0	2	0
CS303 5	Apply appropriate data structure to solve and implement various real time problems	2	1	1	1	1	0	0	0	0	1	0	0	0	2	0
Average		2.00	1.00	0.20	1.00	1.00	0.00	0.00	0.20	0.00	0.40	0.00	0.00	0.40	1.20	0.00

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## Annexure 2

CO\_PO Attainment

of

**Data Structure Course** 

(July Dec 2020)

INSTITUTE OF TECHNOLOGY & MANAGEMENT

#### Target Setting for 2020

Course name-Dats structure Course code:303

#### On the basis of 2019 CO attainment Total course attainment for Data Structure from previous year(2019) is 1.74

	2019	2020(Target)
CO1	1.74	1.85
CO2	1_74	1.85
CO3	1.74	1.85
CO4	1_74	1.85
CO5	1_74	1.85

	60 perc. Of students score 60 perc. Or more
	70 perc. Of students score 60 perc. Or more
>=80% =  eve 3	80 perc. Of students score 60 perc. Or more

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rogram	B-Tech																							Branc	h:- C	5				
Course r	ame: Data Stri	ucture																						Cours	ie coo	ie:CS	303			
iemeste	- 1																								Deels	020-2				
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							Vidiem 1(	249			Wittern	(2(20)			ABCA										ROPY	Franci	(Theory	+ Pras	diant	
										Q(20)				Total	ABCA1	ARCAS		etica -	Q.1 (	22	e's	0.4	0.6							
			Course O	discores.			-C01	-C02	C03	CO1,2,3,4,	003	C04	C06	:04,00	C04	005			CO1 0	:02	C03	004	C05	C	01,2,3	4 001	COS	CC8	CO4	10
NO.	ROLL No.	NAME			(Mideem	Total NT				Total MT2				Actua			Avg													
				ntoreal 6	angtanag ntast.) Total 30	marka 20	6.67	6.67	6.67	marka 20	6.67	6.67	6.87	activit Y		10	& Act. Out of	80	1	•	*	4	*	Total Harks	100		20	22	20	
			Compet			12	4	4	4	12	4	4	4	6	6	6		2		24	2.4	2,4	2.4	60 m 1	60	12	12	12	12	
- <del>i</del>	0905CS191002	ASPAT DRUPAR			21,8/6	14	10	1 1 1 1	42		144	141	4.0	9		9		80	4 2.4 3	4	4	4	4	80	80	- 17	17	- 17	- 17	
4		ASHNAY GOYAL		20,000	26,625	11	10	τũ	10		2.0	20	2.0	15	7					28	2,8	2,8	2.8	15	10	15	15	32	10	
- 1		ABH NAV GUPTA	<u> </u>		20,925	19	- 83	8	83		0.0	0.0	100	7.0	8	0		4		25	3,8	3.6	3.5	80	30	17	17	17	17	
-	0905C8191005				21.75	18	12	12	꿃	-	1 5.0	5.0	1.50	÷	8			3		20	2.0	2.4	2.4	×	75		11	11	1.0	+
- 6		ADVISITICS GUPTA	-	29,75		12	40	- 20	120	10	33	33	33		0					22	2.2	2.2	2.2	76	75	- 12	12	12	10	٠
Ť		ABHISHEK JHA	<u> </u>	27.75		0	- <del>ũ</del>	1 au	1 do		8.0	8.0	8.0	1.5		0		5	3	3	3	3	3	10		10		10	10	+
- Á		ADDEPEK KUWAR		38,25		14	+ <del>v</del>	Ũ	ΤŨ	17	67	5.7	57	- E	ů.			6		<del>ŭ l</del>	3.2	3,2	3.2	85	85	- 17	42	- 12	42	÷
-ă-		ABHISHEK KUMAR		25,575		7	23	2.3	23	10	33	3.3	33	0		0		2		<del>11</del>	2.4	2.4	2.4	65	65	1.4	12		13	+
10		ASHISHEK PATEL	<u> </u>	24,125		5	10	ΨŪ	Ť	0	0.0	0.0	0.0	3				4		2.8	2.8	2,8	2.8	16	65	13	13	43	43	÷
-11		ABH SHEK PATHAK	+	41.5	21.5	13	- <del>1</del> 3	43	13	34	147	4.7	47		7			10	4	1	4	4	4	85	85	12	12	12	17	+
12	0905C8191012		-	31,675		a	20	1.0	3.0	12	4.0	4.0	40	0	0			4		20	2.0	2.8	2.8	75	75	15	14	- 64	16	+
13	0905C5191013	ADHEREK	-	37	21	15	5.0	5.0	5,0	12	4.0	4.0	4.0		7					22	3,2	8.2	3.2	05	95	19	1.0	10	19	۰
14	0905CS191014	ABHISHEK		28.25		11	- W	17	1 i v	12	4.0	4.0	40		T			3		2.6	2.6	2.4	2.6	65	85	17	17	57	17	t
15	090503191015	ADHEREK SINCH	-	34,75	18,75	15	8.0	5,0	5,0	14	47	4.7	4.7	7	7	7			32 3	22	3,2	3,2	3.2	85	85	17	17	-17	- 17	t
16	0905CS191016	ADARSH DUBEY		42,375	24.375	17	107	57	52	37	5.7	5.7	5.7	7.5	7	8		8		1.5	3,5	3,5	3,6	85	85	17	12	17	17	+
17	0005C8101017			36-625	19-825	15	5,0	5,0	5,0	10	3.3	3.3	3.3	8	0	0			3.4	24	3,4	3,4	3,4	85	95	19	19	12	19	
18	0905CS191018	ADILIA THE	<u> </u>	30	15	9	3.0	3.0	3.0	5	12	1.7	1.7	4	8	0	8 1	6	3	3	3	3	3	75	75	16	15	15	16	t
19	0005CS101010			34.125		13	4.5	43	43	0	0.0	0.0	0.0	7.5	7		7,625 1	80	4	4	4	4	4	95	95	19	19	19	19	T
20	0905CS191020	ADITYA SHARMA		27,875	11,875	5	10	0	17	-	1.3	1.3	1.3	0	0	0	7,375	6	32 3	22	3,2	8,2	3,2	76	76	15	15	15	15	T
2	0909025181051			42	23	15	53	5.3	5.3	15	5.0	5.0	5.0	7	7	7	7.5	9		70	3.0	3.8	3.8	65	85	17	17	17	17	
22	0905CS191022			29,5	17,5	10	- 33	- 3,3	3,3	11	3.7	3.7	3.7	0	0	0	7 1	2		24	2,4	2,4	2,4	76		15	15	15	15	т
23		ADILIYA UPADHIYAY		32,375		18	0.0	<u>a</u> 0	80	0	0.0		0.0	0	0		12225	6		22	3.2	3.2	3.2	76	75	15	15	15	16	Т
24		AJAY PAL JATAV		22	11	- 4	- 53	1.5	1.3		1.7	1-7	1.7	0	0	a	6.5	4		242	2-2	2.2	2.2	55		- 11	11	-11	- 11	т
25	0905C5191025			38,875		9	3.0	3.0	3,0	15	5.0	5,0		6	8	8		7	3.4	54	3,4	3,4	3,4	85	85	17	17	-17	17	T
26		ARARSH LAHARIYA		33.75	18.75	17	- 57	1.17	527		5.7	3.7	3.7	7.5	8	7		6	3	2 1	- 2	3	3	12	12	17	17	- 17	17	Т
27		AKSHAT MANGAL		30,5	15,5	11	30	10	37	5	12	1.7	1.7	0	0	0	7.5	5	3	8	- 8	- 3	3	85	85	17	17	-17	17	
28		ARSHAT VERMA		27.75		7	2.3	2.3	2.3		4.0	4.0	4.0	2.5		0	5.25	2		2.4	2,4	2,4	2.4	85	65	13	13	13	13	T
29		ALANKRITA SAH		41 375		17	10	10	107	- 17	6.7	0.7		9	9	9		0		2.6	3,6	8,8	3,6	86	85	-17	17	-17	17	
30	0905CS191030				17.75	8	27	27	22		30	3.7	3.7		8					15		5,6	3,6	75	75	15	15	15	16	
31	090508191081				20.125	12	440	40	40	12	100	4.0	4.5	8	8			6	32	12	3.2	3.2	3.2	85	85	- 17	17	- 17	- 17	
32	D905CS191032				16,825	7	2,3	2.8	2.3	14	4,0	4,0	4,0		0					24	2.A	2,4	2.4	- 60	65	- 13	13	-13	13	+
33		AW T KUSHWAH		30	23	15	53	53	8.3	12	4.0	0.0	4.0		8			6	12 1	12	3.2	3.2	3.2	86	85	- 17	17	- 17		Į.
34	090505191034	ANAD SHARMA		41,25	21_25	14	40	47	47	1.2	4.3	4.3	4.3		0			80	4	4	4	4	4	80	85	- 17	17	- 17	- 17	+
35				32_375		16	53	5.5	5.3		0.0	0.0	0.0	6	8			8	2.5	2.6	3,6	5,6	3,6	75	75	15	15	15	16	+
36		ANANT KUMAWAT ANJOET AGRAWAL		42.75		18	4.0	- 60	6,0	- 10	100	0.0		3.5	1	0		80	4	4	4	4	4	80	- 30	17	17	17	17	
37		AN WESH SHARMA		30.25	18,25	9	3.0	- 20	30		122	1	100		0				24	24	2.4	2,4	2,4	10	10	15	15	15	16	
38 39		ANJUL SHARMA	-	29,75	15,75	12	- 40	- <del>2</del>	30		1.5	1.3	1.74	725				20		4	4	4	4	10		12	12	12	10	
40	0905CS191040			29,75		11	23	23	2.3	12	120	2.3	2.3			0		4		2.8	2,8	2.8	2.0	00	- 00	13	13	13	13	
40	0905CS191041		-	35,25		1	12	10	127	<u> </u>	1 2 0	1 2 0	10	0	0			<del>}  </del>		<del>64</del>	2.2	2.2	3,4		-30	- 12				
42		ANKUR GUPTA		37,25	21_25	14	1 8	- <del>2</del>	1 <del>čš</del>		3.0	3.0	1	7.5						<del>8  </del>	3.2	3.2	3.2	80	80	17	17		17	
41	0005C8101043		-	34.25		15	- <del>ŭ</del>	- <del>ŭ</del>	τŏ		100	1 3 3	1 1 1	8	0			6	30	10	1.2	3.3	3.2		95	17	17	47	14	
44		ANSH MISHRA	-		10,25	12	+ 🏹	12	١¥		1.00	1 2 2	147		8	0		0	<del>~ ·</del>	<del>¥  </del>	- 4	4	4	- 10	30	17	17	10	17	

(Dr. S. S. Chauhan) Dean Academic/ Coordinator IQAC

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श्रेष्ठ इंडस्ट्री इन्टरफेस के लिए

& RGPV

। पुरस्कृत

45 0905CS191045(ANUJ GARG	24.5 12.5	28 28	23	7 1 2 3 1 2 3 1 2 3	0 0 0	6.5	12 2.4 2.4 2.4 2.4 2.4	RR RS 40 40 40 40
46 0905C8191046[ANUJ SHARMA	33 17	<u> </u>	20	17 40 40 40		2.2	12 2.4 2.4 2.4 2.4 2.4 16 3.2 3.2 3.2 3.2 3.2 3.2	
47 0905C5191047 ANUPAM DURLY			ũ.	0 00 00 00	345 7 0 745 7 8	0.0	10 ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	
48 0905CS191048[ANUSAR SINGH			<del>ũ</del>	· · · · · · · · · · · · · · · · · · ·			10 4 4 4 4 4	
49 0905CS191049 ANUSHKA	40.5 19.5		600	15 50 50 50	6 8 8	-	10 0 0 0 0	
50 0905CS191050 APARNA VERMA					6 U U			
		4 10 10	10	10 500 500 500	6 8 8	2		
51 0005C8101051 APOCRVA		0 0	6.7	10 40 40 40	8 0 0	5	19 3,8 3,8 3,8 3,8 3,8	NO NO 19 19 19 19 19
52 0905CS191052 APURVA MATHUR		5 5.0 5.0	6.0	10 50 50 50	6.5 9 8	10,70	19 328 328 328 328 328	<u>96 96 19 19 19 19 19</u>
53 0905CS19105S ARSHAD KHAN ZAEE	41.75 23.75		10	16 5.3 5.3 5.3	7-5 7 8	0.75	18 346 346 346 346 346	85 85 17 17 17 17 17
54 0905CS191054 ARYAN PANDLY	30,625 14,625		6.0	0.0 0.0 0.0	4 8	7 125	16 3.2 3.2 3.2 3.2 3.2	80 80 17 17 17 17 17 17
55 0905CS191056 ASHISH ARORA	40 22 1		40	17 5.7 5.7 5.7	6 8 8	7.5	18 3.6 3.6 3.6 3.6 3.6	66 65 17 17 17 17 17
56 D905CS191056 ASHEH SHARMA	34 16 1		47	34 47 47 47	5 5 8	2	18 3.6 3.6 3.8 3.8 3.8	80 80 17 17 17 17 17
57 0905CS191057 ASHUTOSH SINGH			0.0				*	
58 0005C8101058[ASTHA GUPTA	40.5 21.5 1	1 0 0	47	15 5.0 5.0 5.0	8,5 9 8	7	19 3.8 3.8 3.8 3.8 3.8	85 85 17 17 17 17 17 17
59 0905C5191059[AT SHAY	40,125 22,125 1		43	15 5.0 5.0 5.0	0	8 125	18 3_5 3_5 3_5 3_5 3_5	75 75 15 15 16 16 16
60 0905CS191060 AVIKAL HWAR		4 47 47	42	36 47 47 47	8 8 8	8.25	10 3.6 3.6 3.9 3.8 3.6	80 90 10 10 10 10 10
61 0905CS191061 AYUSH GANGL		5 3.5 3.5	3.3	12 4.0 4.0 4.0	4 8	1.75	16 3.2 3.2 8.2 8.2 8.2	76 75 15 15 15 15 15
62 0905CS191062 BHARAT RATHORE	38,525 17,625	2.7 2.7	2.7	11 37 37 37	63 5 8	8 125	10 3.6 3.0 5.8 3.8 3.8	18 18 12 12 12 12 12 12
63 0905C8191063 DEV MITTAL		3 43 43	43	54 47 47 47	3.5 7	2.000	12 24 24 24 24 24	76 76 45 15 45 45 45
54 0905CS191064 DEVANSH JEA	38.525 19.625		- 25	15 87 87 97	7.5 6 9	2 4 3 5	19 3.6 3.6 5.8 3.8 3.8	N N 92 93 93 43 43
65 0905C8191065 DK8HANT KUMAK	19.75 7.75		3.0	0.0 0.0 0.0	0 0 9	1.04	12 24 24 24 24 24 24	
66 0905C5191065 DIVGRAVIT KOWAR					1 1 1 1	1000		12 13 13 13 13
65 0009CS101067 DWAS GUPTA		3 43 43	43		5 6 6	1,878	19 325 328 328 328 328	00 00 17 17 17 17 17
		220 220	2.0	0 20 20 20			12 24 24 24 24 24	65 65 13 13 13 13 13
68 0905CS101068 DVYA MISHRA	40.375 21.375	27 27	27	35 0.3 0.3 0.3	85 9 9	7.875	19 3.8 3.8 3.8 3.8 3.8	80 80 17 17 17 17 17
59 0909CS191068 DWYANSHU GUPTA	38,375 19,375		40	12 40 40 40	L5 8 9	1.272	10 3.6 3.6 3.6 3.8 3.8	00 00 17 17 17 17 17
70 0005CS101070 DWYANSHU GUPTA	42.625 23.625		6.8	56 6.3 6.3	9 9 9	7.425	19 3.8 3.8 3.8 3.8 3.8	80 80 17 17 17 17 17
71 0905CS191071 DIVYANSHU	30,575 20,875		40	15 5.0 5.0 5.0	5 8 8	7,325	10 318 318 318 318 318	88 85 17 17 17 17 17 17
72 0905C81910/2[ESHA GUPTA	40.75 22.75	2 40 40	4.0	18 0.0 0.0 0.0	7-5 7 8	7.75	18 346 346 348 348 348	AG AG 17 17 17 17 17 17
73 0905CS191073 FAISHAL NAZIR	40,25 21,25 1	1 1 1	47	13 4.8 4.8 4.9	6 a a	7.75	19 3.6 3.8 3.8 3.8 3.8	85 85 17 17 17 17 17 17
74 0909C8191074 FAIZAN AHMAD	27.75 12.75 1	5 23 25	3.3	9 27 27 27	4 8	3,75	15 3 3 3 3 3	70 70 16 16 16 16 16
75 0905CS191075 CAHANA CUPTA	35,75 18,76 4	0 33 33	3,3	12 4.0 4.0 4.0	5,5 5 9	7.75	17 3.4 3.4 3.4 3.4 3.4	85 85 57 17 57 47 47
76 0905CS191076 GARIMA GUPTA	39,375 21,375	6 510 510	5.0	15 5.0 5.0 5.0	4.5 0	6 325	18 345 345 3.6 3.6 3.6	28 85 17 17 17 17 17 17
77 0905C8101077 GARGWA GOPTA		1 2 2	37	16 53 53 53	6,5 5 0	7.434	10 3.6 3.6 3.6 3.6 3.6	75 75 48 48 48 48 48
78 0905C5191078 GAURAV SRIVAS	35 18		30	15 87 87 87	55 9 8	11000	17 3.4 3.4 3.4 3.4 3.4	NA NA 52 53 52 52 52 52
19 0905C8191079 CAURVESINCH	30-075 22-075	<u><u><u></u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u><u></u></u>	10	15 50 50 50		2 2 2 2		22 22 12 12 12 10 10
80 0905CS1910E0 GAUTAN SAHU			800		8 9 7 55 8 8	11212		
EI 0905CS1910ET HARSH BHARGAVA			100		0 8 8	1.0		
				1 0 0 0		1.00		10 10 10 10 10 10
		2 40 40	4.0	17 0.7 0.7 0.7	7.5 6 9	4.25	19 308 308 308 308 308	80 80 17 17 17 17 17 17
		4 0 0	10	12 30 31 37	55 6 7	1,375	17 3.4 5.4 5.4 5.4 3.4	00 00 17 17 17 17 17 17
\$4 0005C8101064 HAX8HIT	35.625 18.625	3.0 3.0	3,0	24 47 47 47	7.0 8 7	7,125	17 3.4 3.4 3.4 3.4 3.4	80 80 17 17 17 17 17 17
85 0905CS191085 HARSHTA	42 24 1		6.0	17 5.7 5.7 5.7	6.5 8 9	8	18 3.5 3.6 3.6 3.6 3.6	80 80 17 17 17 17 17 17
\$6 0905CS191066 HIMANG SHUKLA	31.125 15.125		5.0		345 7	7,625	16 3.2 3.2 3.2 3.2 3.2	65 65 17 17 17 17 17 17
87 0905CS191067 HIMANSHU DDT	40,875 22,875	3 43 43	43	18 60 80 80	7 7 7	74175	18 3.6 3.6 3.8 3.8 3.6	80 80 17 17 17 17 17
E8 0905CS191088 JANHVI GUPTA	40 23 1	2 40 40	400	13 6.3 6.3 6.3	6 7 9	7.5	17 3.4 3.4 3.4 3.4 3.4	AS AS 17 17 17 17 17 17
89 0905CS191089 JATIN RATHOR	37 21 4	1 30 30	3.7	17 67 67 57	7.5 8 7	7	16 3.2 3.2 3.2 3.2 3.2	85 85 57 17 57 17 17
90 0905CS191090 JAYESH KATARE	36,375 18,375 1	8 43 43	13	9 3.0 3.0 3.0	7.5 7 8	7,375	18 3.5 3.5 3.6 3.6 3.6	85 85 17 17 17 17 17
91 0905C81910UT JONES SAJAN	37.5 18.5		4.0	54 47 47 47	45 6 7	6.5	10 3.6 3.6 3.6 3.6 3.6	76 76 15 15 15 15 15
92 0905CS191092 JOVITA JADHW	39,375 20,375		3.0	18 5.3 5.3 5.3	7 6 8	7.875	19 3.5 3.8 3.8 3.8 3.8	85 85 17 17 17 17 17 17
93 0905CS191083 KAPIL VERMA	26.25 14.25		4.0	12 43 43 43	4 8	1.75	12 24 24 24 24 24	75 75 14 14 14 16 16
94 0905CS191094 KEERTI SAHU	40 21 1		43	18 47 47 47	7 0 0	7.5	19 3.8 3.8 3.8 3.8 3.8	85 85 17 17 17 17 17
95 0901CS191060 RETAN SINGH	32.25 18.25	<u> </u>	5.0	9 30 30 30	15 7	8.25	14 2.0 2.0 2.0 2.8 2.8	8 8 17 17 17 17 17 17
96 0905CS191096 KHUSHBOO YADAV	33,375 15,375		3.3	8 27 27 37	7 6 8	6.378	10 3.6 3.6 3.9 3.8 3.8	No. No. 47 47 47 47
97 0905CS191097 KHUSH CHANDL		5 <u>50 50</u>	5.0	12 22 22 20		A 195	10 3_5 3_5 3_8 3_8 3_5	
W 0905C8191088 KHUSHLKAU						10.00		
99 0905C5191099 KHUSH SON			6.0		65 6 7	1.020		10 10 10 10 10 10 10
		3 43 43	43	25 000 000 0.0	5.5 8 9	1,125	17 3.4 3.4 3.4 3.4 3.4	00 00 17 17 17 17 17
100 0909CS191100 RIKII	37_5 18.5	27 27	2.7	22 20 21 27	7_5 6 9	2	19 346 346 348 348 348	80 80 13 13 13 19 19 19
[0] 0905CS191101 KRISHNA PRATAP	42.25 25.25		6.3	39 0.3 0.3 0.3	8 a a	7.75	17 3.4 3.4 3.4 3.4 3.4	80 80 17 17 17 17 17
102 0905CS191102 KSHIIIZ CHAUHAN		1 10 10	10	10 53 53 53	65 6 7	8,275	19 3.6 3.6 3.8 3.8 3.8	00 00 17 17 17 17 17
103 0005C8101103 KUNAL SHARMA	30.75 12.75		0.0	10 43 43 43	7.5 7 8	6.25	18 3.6 3.6 3.6 3.6 3.6	85 85 17 17 17 17 17
104 0905CS191104 KUNAL SHARE	38.25 22.26		5.3	24 47 47 47	7 6 8	7.25	16 3.2 3.2 3.2 3.2 3.2	85 85 17 17 17 17 17 17
105 0909C8191105 MAYANK PRATAP	33-375 15-375		4.3	8 2.0 2.0 2.0	745 7 B	5,575	18 346 346 346 348 348	85 95 19 19 19 19 19
106 0905C5191106 MEGHNA MISHRA	37.75 19.75	1 27 27	37	15 5.0 5.0 5.0	7.75 7 8.5	6.75	18 3.5 3.6 3.8 3.6 3.6	86 89 17 17 17 17 17 17
107 0905CS191107 MENIKA RAJPUT	43,875 24,875	; <u>a</u> a	6.0	20 6.7 6.7 6.7	65 8 9	5,575	10 3.6 3.6 3.8 3.8 3.6	95 95 19 19 19 10 10
108 0905CS191106 MOH ADNAN	32,75 14,75	2.8 2.8	2,3	9 30 30 30	4 0 0	6.75	10 3.6 3.6 3.8 3.8 3.8	85 85 17 17 17 17 17
109 0905CS191109 MOHT GUPTA	35,25 16,25	1 0 0	N N	10 3.5 3.5 3.5	8.25 7.6 9	5.75	19 3.6 3.6 3.8 3.8 3.8	65 65 17 17 17 17 17
110 0005C8101110 NAGESH MUDGAL	38.25 19.25		37	14 47 47 47	7.5 7 8	6.75	19 3.8 3.8 3.8 3.8 3.8	85 85 47 17 17 17 17
111 0905CS191111 NANDIN SOM		2 40 40	žõ –	12 40 40 40	75 75 75	6.75	19 326 328 338 338 338	76 76 36 36 36 36 36
112 0905C8191112 NHARKA GUPTA	30.5 16.5		3.5	13 43 43 43	75 8 7	5.5	14 2.6 2.6 2.8 2.8 2.8	73 75 14 14 14 14 14
The providence of the						100	14 15 16 16 16 16	12 12 12 10 10 10

(Dr. S. S. Chauhan) Dean Academic/ Coordinator IQAC

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113	0905CS191113 NISHANT MEENA 0905CS191114 OM UMRALYA	34.5	18,5	12	40		40		0 0 0 0 0 0	6.5	16 3.2 3.2 3.2 3.2 3.2 3.2 14 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6 2.6	
115	0905CS191115 PARTH AGRAWAL	37	19	14	+ ũ		ũ	12 40 40 40	4 0 8	<u>0</u>	18 3.5 3.6 3.8 3.8 3.8	85 85 17 17 17 17 17
115	0905CS191116 CM PATE	18.5	9.5	1	0.3	0.3	0.3	0 2.0 2.0 2.	0 0 0 7.5 8 7	8	9 128 229 128 128 128 18 326 326 329 328 328	75 75 15 15 15 15 15
117	0905CS191118 PIYUSH YADAV 0905CS191118 PRALWAL	38,5	20.5	14			47	17 0.7 0.7 0. 17 57 57 57		5	18 3.6 3.6 3.8 3.8 3.8 14 2.6 2.0 2.8 2.8 2.8	
119	0005C8101120 PRANIF SHARWA	41,75	22,75	15	5,0	5,0	5,0	17 67 67 6	7.25 6 8.5	6.75	19 3.8 3.8 3.8 3.8 3.8	85 85 17 17 17 17 17
120	0905CS191121 PRANJAL GUPTA 0905CS191122 PRANJAL	40.25		18	43		43	US 0.5 0.8 87	7,75 6 9.5	6.76	18 3.5 3.6 3.6 3.6 3.6	85 85 17 17 17 17 17
121	0905C5191122 PRASI (ANT	36.25	20,75	12	2.0	2.0	20	10 53 53 50	75 8 7	6,75	18 326 326 338 338 338 18 325 326 338 338 338	86 86 17 17 17 17 17 17 86 86 17 17 17 17 17 17
123	0905CS191125 PRASHANT SAHU	36.75	18_75	9	3.0	3.0	3.0	15 5.0 5.0 5.0	5,25 5,5 4	5.75	18 346 346 346 346 346	165 65 17 17 17 17 17 165 65 19 19 19 19 19
124	0905CS191125 PRATISHTHA 0905CS191127 PRERNA JAIN	35,75	21_75	16	- 53	53	53 50	14 47 47 4	725 73 e	6475	14 2.8 2.8 2.8 2.8 2.8	05 05 19 19 19 19 19
125	0005C8101128 PRINCE GUPTA	33.5		15	- <del>õ</del>		ö	12 40 40 40	7,76 7.3 8 0 0 0 0 0 0	5.75	10 2.6 2.6 3.8 3.8 3.8 16 3.2 3.2 3.2 3.2 3.2 3.2	78 78 15 15 16 16 66 65 13 13 12 13 13
127	0905C5191129 PR/YANSHU	38_375		13	43	43	43	10 3.3 3.3 3.	5.5 8.5 8.5	15.875	19 318 318 318 318 318	85 85 87 97 97 97 97 97
128	0905CS191130 PRIVANSHU 0905CS191131 PRIVANSHU SON	36.25		15	53		5.3 5.0	9 3.0 3.0 3.0 35 5.0 5.0 5.0	4 0 8 32/5 0 7.5	6,75	10 3.0 3.0 3.0 3.0 3.0 3.0 14 2.8 2.8 2.8 2.8 2.8 2.8 2.8 2.8 2.8 2.8	86 86 17 17 17 17 17 17 86 85 17 17 17 17 17 17
129	0905CS191132 PULKIT SHARMA	30	21/8/0	15	- <del>v</del>		<del>ä</del>	17 57 57 5	3.75 0 7.5 7.5 8 7	5.5		
131	0905C8191133 PUNEET	38,75		15	- 63	- 6.3	63	12 4.0 4.0 4.0		6.75	10 3.6 3.6 3.8 3.8 3.8	<u>38 38 19 19 19 10 10</u> 86 86 17 17 17 17 17
132	0905CS191134 PUSHPENDRA 0905CS191135 RAAM ARORA	35,75	19,75	14	40	40	10	12 40 40 40	425 85 0 775 85 7	6,76	16 3.2 3.2 3.2 3.2 3.2 14 2.6 2.8 2.8 2.8 2.8 2.8	85 85 17 17 17 17 17 17 85 85 19 19 19 19 19 19
134	0905C5191136 RAGEAV TRIPATH	35,75	17,75	10	- <del>W</del>		<del>ii</del>	11 37 37 3	7.75 8.5 7	6.75	18 3.5 3.6 3.8 3.6 3.6	85 85 17 17 17 17 17 17
135	0905CS191138 HAV NURA LYAG	25.25	10.25	- 4	- 13	13	1.3	8 1.0 1.0 10	0 0 0	6.75	16 3 3 3 3 3 3	55 55 11 11 11 11 11 11 56 55 11 11 11 11 11 11
136	0905CS191139 RISPARELAN	24_875		2	8		07	27 27 2	0 0 0	5,875	14 2.8 2.8 2.8 2.8 2.8	
138	0005CS101144 RIYA PANDEY	36,75		15	- 60		53 10	17 57 57 57	7.5 8 7 8,5 8,5 8,5	6.00	14 2.8 2.8 2.8 2.8 2.8 2.8 14 2.8 2.8 2.8 2.8 2.8 2.8	85 85 17 17 17 17 17 17 85 85 17 17 17 17 17
139	0905CS191145 ROF T PRAJAPAT	38,25	20.25	11	10	10	ŵ.	10 5.3 5.3 5.3	7.5 7 8	6.76	18 3.5 3.5 3.6 3.6 3.6	85 85 17 17 17 17 17
140	0905CS191146 ROH T SAHU 0905CS191147 RYAN RULY	33.75		15	540		540		3 0 6	6,75	14 24 24 24 24 24	76 76 15 15 15 15 15
141	0909CS191148 CALLS TO DATE	38,75	20,75	15	6.0 0.0		80 60	8 33 33 1	5 8 8	6.76	18 3.5 3.6 3.8 3.8 3.8	85 85 17 17 17 17 17 17 85 17 17 17 17 17
143	0909CS191148 SAHL TEIPATH 0905CS191149 SAKSH GDSWAM	39,5		16	5,3	5.8	6.8	17 67 67 6	0 8 8 6 0	- 5	18 18 3_6 3_6 3.6 3.8 3.8	85 85 17 17 17 17 17 86 85 17 17 17 17 17
144	0905CS191150 SANKALP GUPTA 0905CS191151 SANSKAR	41_575	23.375	18	4.0	8.0	80	17 57 57 57	4.5 8 9	6,875	18 3.6 3.6 3.6 3.8 3.6	95 95 19 19 19 19 10 86 86 17 17 17 17 17 17
145	0905CS191152 SANSICAR GUPTA	34,75	22,75	14	47		47	10 53 53 53	8 8.5 7.5 4 0 8	6.75	12 2.4 2.4 2.4 2.4 2.4 2.4 17 3.4 3.4 3.4 3.4 3.4	86 86 17 17 17 17 17 17 86 86 17 17 17 17 17 17
147	0905CS191153 SARANSH CARG	41.75	23.75	17	57	5.7	52	17 527 527 52	7 6 8 7_5 7 8	6.75	18 346 346 346 346 346	85 85 17 17 17 17 17 17 85 85 17 17 17 17 17 17
148	0905CS191154 SARTHAK 0905CS191156 SARTHAK JAIN	42.75	24,75	18	80	0	810 513	78 6.0 6.0 G.	7.5 7 8	6.75	18 325 325 338 338 338 18 325 326 338 338 338	
1.49	0905CS191155 SHANTANU	27_870		15	- 27		#	5 2.0 2.0 2.	43 0 0 8 73 83	5,175	18 2.6 2.6 3.8 3.6 3.6 12 2.4 2.4 2.4 2.4 2.4 2.4	86 98 19 19 19 19 10 10 76 76 15 15 15 15 15
151	0905CS191157 SHANTUN TOMAR	37	22	15	5_0	5.0	5.0	13 43 43 4	9 9 9	8	16 3 3 3 3 3 3	86 85 17 17 17 17 17
152	0905CS191158 SHASHANK YADAV 0905CS191159 SHASHWAT	23	13	6	2,0		2.5	13 43 43 44	2,0 5 0	3.5	10 2 2 2 2 2	66 65 13 13 13 13 13
153	0905CS191160 SHEAVAN GUPTA	25	12	15	223	2.3	23	14 47 47 4	7 <u>6</u> 9 D 0 0	2	13 2.5 2.8 2.8 2.8 2.8 16 3 3 3 3 3 3 3	75 75 15 15 15 16 16
1.55	0905CS191151 SHKHAR SNGH	38,75	21,75	16	6,3	6.8	6.8	17 67 67 6	0 0 0 3,6 7 0	\$25	16 3 3 3 3 3 3 15 3 8 8 3 3 3	76 76 15 15 15 15 15
156	0905CS191162 SHIKHAR SINGHAL 0905CS191163 SHIVAM ARORA	41 40,75	26	15	5.0		80	18 6.0 6.0 60	9 0 0 9 9 9	0.5	15 3 5 5 3 3 15 3 8 3 3 3	26 28 19 19 19 19 10 10 86 86 17 17 17 17 17 17
158	0905CS191164 SHWAM	23,5	13.5	18	40		20	15 50 50 50	0 0 0	0	10 2 2 2 2 2 2	
159	0005CS101165 SHIVAM SINCH	34	19	12	-40	4.0	40	15 5.0 5.0 5.0		5.5	15 3 3 3 3 3	85 85 17 17 17 17 17
160	0905CS191106 SHIVAM YADAV 0905CS191166 SHREYANSH	27.25		15	3.0		80 33	13 43 43 4		2.26	11 22 22 22 22 22 22 16 3 3 3 3 3 3	85 85 13 13 13 13 13 13 85 85 17 17 17 17 17
162	0905CS191169 SHREYANSH	27.25		12	- <del>ũ</del>		8	8 27 27 2	4-5 9 0 5-5 5 6	6.75	16 3 3 3 3 3 3 10 2 2 2 2 2 2	76 76 15 15 15 15 15 15
163	0905CS1911/0 SHRUTI JHA	32	17	10	13		323	0 2.0 2.0 2.0	7 5 0	9	16 3 3 3 3 3 3	78 73 15 15 15 16 16
164	0905CS191171 SHRUTI 0905CS191172 SHUBHAM	27.75		10	33		323 523	5 17 17 1 18 53 53 57	2,5 5 0 8,5 9 8	8.25	12 2,4 2,4 2,4 2,4 2,4 2,4 16 3 3 3 3 3 3	86 86 47 47 47 47 47 86 85 17 17 17 17 17 17
155	0005C8191178 SHUBHAM	34.25	19-25	15	5.3	5.3	5.3	12 40 40 40	8 9 7	5.25	15 3 3 3 3 3 3	85 85 17 17 17 17 17
167	0905CS191174 SHUBHAM SINGH	11.75		1	0.5		0.3	3 1.0 1.0 1.0	0 0 0	3.76	6 12 12 1.2 1.2 1.2	55 55 11 11 11 11 11
168	0905CS101175 SHUBHANSH 0905CS101176 SHUBHANSHU	22.5		14	47		47	10 50 50 50	3 0 6 2 4 0	2	8 12 12 12 12 12 10 2 2 2 2 2 2	66 68 13 13 13 13 13 76 76 15 15 15 15 15
170	0905CS191177 SHUBH SHIVHARE	37.75	22,75	15	- <del>20</del>	5.0	540	10 53 53 5	7 8 8	7.25	16 3 3 3 3 3 3	
171	0905CS101178 SIDCHARTH 0905CS101178 SONAL SHAH	40	25	18	6.0	6.0	6,0	13 43 43 40		9.5	16 3 3 3 3 3	76 75 15 15 15 15 16 16 86 85 17 17 17 17 17 17
172	0905CS191178 SONAL SHAH	38	23	10	33		323	1 5 5 5	0 0 0 745 6 9	10	16 3 5 5 3 3 16 3 3 3 3 3	
174	0905CS191161 SRISHT PATERIYA	32,25	19,25	15	6,0	5.0	5.0	7 2.3 2.3 2	7.5 6 9	6.25	13 2,5 2,6 2,8 2,8 2,8 2,8	85 85 17 17 17 17 17 17
175	0905CS101182 SUM T SON	28	18	17	57		52	12 40 40 40	4 8 0	3.5	10 2 2 2 2 2 2	85 83 17 17 17 17 17
176	0905CS191183 SUNNY 0905CS191184 TANYA GUPTA	20,5		7	23		228	12 40 47 3	3 0 0 9 9 9	1.5	10 2 2 2 2 2 16 3 3 5 3 3	65 65 13 13 13 13 13 13 85 85 17 17 17 17 17 17

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181 0905CS191188 UDIT SHARMA 182 0905CS191188 UJJWAL BATHAM	38.25	26	18	- 50	50	600 500	17 2	0 03	5.7	8.0 8 8.5 8	9	9	15	3	3	3	3	3	85	85	17	17	17 1	7 17 7 17
183 0905CS191190 VACHASPAT 184 0905CS191191 VABHAV GUPTA	38,75	18,75	8	꾾	2.7	27	10 2	3.3	3.3	45 0	9	8.70	15	3	3	3	3	3	85	85	17	17	17 1	7 17
185 D905CS191192 VAIBHAV OMRE	27.25	14,25	9	3.0	3.0	3.0	11 2	0 20	3.7	7 5 25 0 0 0 0 0	5	4.25	15	2,6	2,6	2,8	2,8	2.8	76	76	12	12	12 1	7 17 5 15
186 0905CS191183 W4SHNWTG0P1/ 187 0905CS101104 WANDARORA	22,25	22,75	18	8		8	10 A	33 5.33	5.35	0 0	0	6,76	13	228	2.6	2.6	2,8	2.6	88	85	17	- 17	17 1	7 17 5 15
188 0905C5191165 VARNITA	38,75	23,75	14	- 27	47	0	15 5	33 5.33	5.33	0 0	6	8.76	15	- 3	16	3	3	3	86	85	17		37 3	7 17
189 0905CS191166 VARUN KUSHWAP 190 0905CS191167 VATSAL KUWAR	36.25	21,25	14	4.7		4.7		8 5.07	5	7,5 8	9	5.75	15 15	3	3	3	3	3	85	85	17	17	17 1 17 1	7 17
191 0905CS191168 VPRANSH 192 0905CS191169 VISHAKHA GANDH	34.75	19,75	15	장		83 47	12	4 4	1	7.5 9	8	5,75	15	3	3	3	3	3	165	85	17	17	17 1	7 17
193 0905CS191200 V SHAKHA SA N	30.75	15,75	14	40	40	40	12	4 4	1 Å	7.5 9 9 9 7.5 9 7.5 9 8 9 2.5 6 0 0	0	8,25	15	- 3	3	3	3	3	80	85	17	17	17 1	7 17 7 17 1 11
194 0905CS191201 VISHAL 195 0905CS191202 VISHAL SON	17-5	9.5 Z	10	장		3U3 007	8 2	67 2.67	2.87	0 0	0	0.5	8	1.6	1.6	1,6 1,8	1.6	1.6	55	55	41	- 11	11 1	1 11
196 0005C8191203 VIVER SINCH	24.75	13,75	10	23	2.3	3.5		<u></u>	3.33	0 0 555 0 9 9 45 9	6	3,75	11	2.2	2.2	2.2	2.2	2.2	65	05	13	13	53 1	3 13
197 0905C5191204 YASH NAMDEV 198 0905C5191205 YASH GUPTA	39.5	24.5	12	40		8	18	a a a a	8	4.5 0	8	8.5	15	3	3	3	3	3 2.2 3	10	70	15	15	12 1 1	5 15 7 17
199 0905CS191205 YASHIKA GUPTA 200 0905CS191207 YUVRAJ	32,75	17,75	0	27		27	10 3	33 3.33	3,33	8 9	9	8.75	15	3	8	22 3 3	3	3	86	85	17	-17	17 1	7 17
201 DOMERSON/OH Law curds	7.5	7.5	13	0,0	0,0	0	13 4	33 4.33	4.33	7.5 6	0	6.76	16	0	0	0	0	0	65	65	17	12	13 1	3 13
202 0005cs2003d02 MmsHu mishna 203 0005cs200d00 rishita gupta	6.5	625	0	- 00		010	15 4	33 4.33	4,35	4.5 0	9	0		0	0	0	0	0	75	78	15	15	15 1	6 16 8 16
204 09058C191003 Anushka Rajput	0	0	ŏ	0.0	0,0	0.0		G ( G	0	0 0	ŭ	ă.		0	0	Ö	Ű	0	85	85	15	17	17 1	6 15 7 17
205 DROSTCI91023 SAURABH RUSHWA	н	0	0		00	0		0 0	• •	0 0	0	0		0	0	0	0	0					-	-
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No. of students	203	203	205	205	206	205	201 2	04 204	204	203 190	197	203	200	203	208	203	203	203	185	186	186	186	186 1	16 595
Attempted																								
No. of students			134	124	124	134		39 139	130	120 133	140		101	180	160	180	100	100	194	195	195	105	195	195
>=60 %marks															100	1.00							- T	
Perc. of students																								
above(Target			05,30505	65,395	65,395 6	5.37	0 80	114 03.14	55,14	58,11 68,2	1 71.07		90,5	88,67	86,67	66,57	00,67	00,67	104.9	104.6	104.0	104,0	105 1	105
attainment avg mrks)																								
CO Level				- 13	1.5	1.5		1. 1.0	5.6	1,0	2,1		3	3	3	3	з	3	3	3	5	5	5	5 5
					• Blank ce	la bila ti a	- the second second																	
evel 10=609 60 perc. Of students score	e 80 perc. Or mare		1				lased Contir	ious Asse	ternent															
evel 2(>=70% 70 perc. Of students score	e 60 perc. Or more																							
evel 30-809 80 parc. Of students scot	e 60 perc. Or more		1																					
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Level Weighted Average																								
Level Weighted Average	Externel																							
Internal CO level	CO level	1																						
Internal CO kevel CO1 L045651084	CO evel																							
Internal CO Invel CO1 1.045601064 CO2 1.198202206 CO3 0.791627671	CO kvel CO1 5 CO2 3 CO3 3																							
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Internal         CO         Invel           CC1         L045861084         CO2         C-148232206           CO3         L744827827         CO4         L22743199	CO level CO1 3 CO2 3 CO3 3 CO4 3																							
Internal         CO         Invel           C01         Vol45801084         CO2         CO3         CO3	CO level CO1 3 CO2 3 CO3 3 CO4 3																							
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Course nam	e-Data Structure	1		Indirect CO	Attainment		1
Course code	:303	1					•
			•				1
	indirect	Co attainment fi	ormula =	([E*3]+[G	"2)+(P"1))/No. o	d students	1
			Indirect attai	nment survey	1		
			3 Excellent	2 Good	1 Poor	Attainment	Percentage
		CO1	9	37	10	1_96	66,07
		CO2	9	28	21	1.79	59.52
		CO3	10	27	19	1_84	61.31
		CO4	10	25	21	1_80	60.12
		CO5	8	23	25	1_70	56,55
no.	Name	Roll No	CD1	CD2	CD3	CD4	cos
1	Khushi Baj	0905CS191098					Poor(3)-Unable to Understand
2	Dinkar Puri						Poor(3)-Unable to Understand
3	Dives gupta	0905CS191067					Excellent(3)-Understand Concept
4	Ashish Arora	0905CS191065					Poor(3)-Unable to Understand
5	Divyanhu Kumar	0905C/\$191071					Good(2)-Understand few Concept
6	Faishal Nazir Ah	0905CS191073	Good(2)-Underst	Good(2)-Underst	Good(2)-Underst	Good(2)-Unders	Good(2)-Understand few Concept
7	KEERTI SAHU	0905CS191094	Good(2)-Underst	Good(2)-Undersi	Good(2)-Underst	Good(2)-Unders	Good(2)-Understand few Concept
8	Kuna Sihare	0905CS191104	Excellent(3)-Und	Excellent(3)-Und	Excellent(3)-Und	Excellent(3)-Und	Excellent(3)-Understand Concept
9	Aryan Pandey	0905CS191054	Excellent(3)-Und	Excellent(3)-Und	Excellent(3)-Und	Excellent(3)-Und	Excellent(3)-Understand Concept
10	Sanskar gupta	0905C/S191152	Excellent(3)-Und	Excellent(3)-Und	Excellent(3)-Und	Excellent(3)-Und	Excellent(3)-Understand Concept
11	Khushi chandi	0905CS191097	Good(2)-Underst	Good(2)-Underst	Poor(3)-Unable t	Poon(3)-Unable t	Poor(3)-Unable to Understand
12	Preshant Sahu	0905CS191125	Poor(3)-Unable t	Poor(3)-Unable t	Poor(3)-Unable t	Poor(3)-Unable t	Poor(3)-Unable to Understand
13	Khushi soni	0905CS191099	Excellent(3)-Und	Excellent(3)-Und	Excellent(3)-Und	Excellent(3)-Und	Excellent(3)-Understand Concept
14	Jayesh katare	0905CS191090	Poor(3)-Unable t	Poor(3)-Unable t	Good(2)-Underst	Poor(3)-Unable t	Good(2)-Understand few Concept
15	Divyanshu Gupt	0905C/S191069	Good(2)-Underst	Good(2)-Underst	Good(2)-Underst	Good(2)-Unders	Poor(3)-Unable to Understand
16	Aman Soni	0905C/S191032	Poor(3)-Unable t	Poor(3)-Unable t	Poon(3)-Unable t	Poon(3)-Unable t	Poor(3)-Unable to Understand
17	Abhishek Gupta	0905CS191008	Good(2)-Underst	Good(2)-Undersi	Good(2)-Underst	Good(2)-Unders	Good(2)-Understand few Concept
18	Anuj garg	0905CS191045	Poor(3)-Unable t	Poor(3)-Unable t	Poor(3)-Unable t	Poor(3)-Unable t	Poor(3)-Unable to Understand
19	Divyenshu gupte	0905CS191070	Good(2)-Underst	Poor(3)-Unable t	Good(2)-Underst	Good(2)-Unders	Poor(3) Unable to Understand
20	Kune Shema	0905C/S191103	Good(2)-Underst	Good(2)-Underst	Good(2)-Underst	Good(2)-Unders	Good(2)-Understand few Concept
21	Avita Tiwari	0905C/S191060	Good(2)-Underst	Good(2)-Unders	Good(2)-Underst	Poon(3)-Unable t	Good(2)-Understand few Concept
22	Harsh rai	0905CS191083	Good(2)-Underst	Good(2)-Underst	Excellent(3)-Und	Good(2)-Unders	Good(2)-Understand few Concept
23	Divya Mishra	0905CS191068	Good(2)-Underst	Poor(3)-Unable t	Poor(3)-Unable t	Good(2)-Unders	Poor(3)-Unable to Understand
24	Nishant Meena	0905CS191113	Excellent(3)-Und	Good(2)-Unders/	Excellent(3)-Und	Excellent(3)-Und	Good(2)-Understand few Concept
6.7							

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INSTITUTE OF TECHNOLOGY & MANAGEMENT

	Fina	l CO Attai	inment		
Course name-Date Course code:303	a Structure				
	Final direct course	attainment C	ocusations	Final InDirect of	ourse(2020)
Course Outcome		riternal	End Semester	00	Leve
CO1		1.05	3	CO1	1_98
CO2	1	1.20	3	CO2	1_79
COS	1 [	0.79	3	COS	1,84
CO4	1 [	1.43	3	CO4	1_80
CO5	1	0.89	3	CO5	1_70
	Attainment	1.07	3	Final InDirect	
	Weighbage	40%	60%	course	
	Direct total attainment	0,43	1_0	attainment	
	Final direct total attainme		2,23	calc.	1_82
	Weightage		30%	201	4
	Total attainment		178	0,36428	6714
	Final course attainment		2	15	

**CO-Wise Attainment** 

			Direct			Direct(80%)	indirec	:1(20%)	Tota
CO	End Sem	Interna	Endsom(80%)	Internal(40%)	Total		Survey	Survey(20%)	Direct-Indirect
CO1	3	1.05	1_8	0.42	2.22	1.77	1_98	0,40	2.17
CO2	3	1.20	1_8	0.48	2_28	1.82	1.79	0_36	2_18
COS	3	0.79	1_8	0.32	2.12	1.69	1.84	0_37	2.06
CO4	3	1.43	1_8	0.57	2.37	1.90	1_80	0_36	2.26
COS	3	0.89	1_8	0.36	2.16	1.72	1.70	0_34	2.06

2.15

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श्रेष्ठ इंडस्ट्री इन्टरफेस के लिए CMAI, AICTE & RGPV INSTITUTE OF TECHNOLOGY & MANAGEMENT TIV द्वारा पुरस्कृत Target attainment Calculation ourse name-Data Structure ourse code:303 CO attainments ttainment 2.17 marks 1.85 CO1 Achieved CO2 1.85 2,18 Achieved CO3 1,85 2,06 Achieved CO4 CO5 1.85 2.26 Achieved 1.85 2.06 Achieved AVG 2,15 In 2020-21 the RGPV examination conducted were open book exam, hence the the endsemester CO attainment is extraordinary. Remark-With due consideration about the pandemic situation and the examination process, the target set for 2021-22 is not the average of cos attainded but we are making progressive development from 1.85 to 1.9 (Dr. S. 9 n Academic/ Coordinator IQAC Co-ordinator, IQAC e of Technology & Ma Gwalior (M.P.) (Dr. S. S. Chauhan) Dean Academic/ Coordinator IQAC Co-ordinator, IQAC Institute of Technology & Management ITM Campus, NH-75, Opposite Sithouli Railway Station, Gwalior (M.P.)-494001, India 43 E-mail: directoritmoffice@itmgoi.in, web: www.itmgoi.in