Vidarbha Youth Welfare Society's

Prof. Ram Meghe Institute of Technology & Research, Badnera-Amravati

Department of Computer

Science & Engineering

DAAC REPORT

Year 2017-18

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Department of Computer Science and Engineering

PART-I :Programme Assessment Processes and Attainment Tools.

A. OUTCOME ASSESSMENT INSTRUMENTS: PROCEDURES AND SCALES

We, the department of Computer Science and Engineering, rely on direct and indirect assessment methods. Direct methods is the primary source of assessment and indirect methods can supplement program outcomes assessment in productive way. Indirect assessment is gathering information through various means other than looking at actual samples of student work. These include feedbacks, surveys, rubrics etc.

I. Direct Assessment Method

These methods are processes by which evidence of learning is obtained from student performance. Direct methods are about the demonstration of student learning. Here student show in some way, what they can do and what they have learned.

1. Semester End External Examination: University Exam.

Procedure: All eligible students appear for semester end examinations conducted by Sant Gadge Baba Amravati University (SGBAU). The exams are conducted for theory as well as for practical. The results are as given in (Annexure-1/page-17)

Desired Metric:

(a) Passing rate: At least 65 % students will pass in the semester end exams without any backlogs.

(b) Subject Scores: At least 70 % students will pass in each course taken at semester end examinations.

2. Internal Examinations: Class Unit Tests, Remedial Tests, Viva-voce.

Procedure: All eligible students should appear for Two Class Tests in each semester. The examination schedule is planned in the academic calendar of the department. The test paper is designed in such a way that, it should realize the respective course outcomes.

Desire Metric:

(a) Sincere attempt, good performance & follow-up of shortcomings and subsequent suggestions to students by faculty
(b) Passing Rate: Students should score the qualifying marks, if it is not achieved then remedial class tests are conducted.
(c) The courses involving numerical analysis & practices, assignment tool is used to evaluate the students.
(d) Student evaluation is conducted by continuous evaluating in practical sessions on the basis of ACPV (Attendance, Competency, Performance, Viva-Voce).

3. Project Work Evaluation: Performance tasks, including both individual (Mini Projects) and team projects (Main Project)

Procedure: Projects are considered in two types, Main project at final year seventh and eight semester. Continuous evaluation of performance of the students individually and in team during project work is carried out in three phases.

Secondly, the Mini Projects are assigned and evaluated preferably at the end of the practical sessions for the courses suited. The course in-charge evaluates students based on relevant knowledge of the course and skills gained. Annexure-2/page-22

Desire Metric:

(a) Main Projects are evaluated using three phases based on different dimension of software project development.

(b) This project evaluation is also carried out by assessing the student's performance through RUBRIC-2. Overall score is assigned by simply adding together the scores corresponding to the three dimensions (Phases).

4. Student Seminar Presentation:

Procedure: Seminar Presentation is conducted once in a year for final year students. Class teacher register the seminar title so as to have a unique topic to be delivered under the guidance of assigned teacher guide. PART-B/Annexure-2/page-22

Desire Metric:

(a) Seminar Presentation is evaluated by their respective guide during preparation of presentation and preparation of seminar report.

(b) Two examiners evaluate the performance based on presentation, coverage and defense of the topic.

II. Indirect Assessment Methods

Indirect assessment is gathering information through means other than looking at actual samples of student work. These include feedbacks, surveys, rubrics etc. Following are the survey conducted during the session 2017-18

1. Alumni Survey Report

2. Senior Student Exit Opinion

3. Semester End Student's Survey

4. Parent/ Employer/ Advisor Feedback Report

These methods provide important sources of supporting data in the assessment process but they are not adequate as an assessment process in and of themselves since they do not measure how well a student has met Learning goals. They work in conjunction with direct methods in order to provide a more comprehensive understanding of student learning.

1. Alumni Survey Report

Procedure: The assessment process is periodically conducted every year based on the documents and survey form data collected online from the alumni. This demonstrates listing and description of the assessment processes used to gather the data upon which the evaluation of each of the program educational objectives(PEOs) and program outcomes(POs) are based. Annexure-3/page-23

Desire Metric:

(a) Examples of data collection processes may include but are not limited to specific exam questions, student portfolios, internally developed assessment exams, project presentations, nationally – norm exams, focused groups, industrial, advisory committee. Alumni are asked to rate their level of agreement on how they feel they met these outcomes. These data are analyzed and tabulated for quantitative assessment.
Scale: 1-Strongly Disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly Agree

2. Senior Exit Survey conducted by Department:

Procedure: At the end of each summer semester (VII Sem.), all final year students complete an exit survey, which includes questions on Program Outcomes 'PO1' to 'PO12' and 'PSO1' & 'PSO2'. Students are asked to rate their level of agreement on how they feel they met these outcomes. These data are analyzed and tabulated for quantitative assessment. Annexure-4/page-26

Desire Metric & Scale:

(i) Strongly Agree Score(≥ 4):- The programme objectives addressed the program outcome well. No further investigation required.

(ii) Agree Score($3 \leq n < 4$):- The programme objectives addressed the program outcome are up to the mark and can continue with higher score.

(iii) Neutral Score($3 \leq n < 2$):-The programme objectives addressed the program outcome moderately achieve satisfactory performance so improvement and investigation required.

(iv) Disagree Score($2 \leq n < 1$):- The programme objectives did not addressed the program outcome satisfactorily. Investigation required.

(v) Strongly Disagree Score(<1):-The programme objectives did not addressed the program outcome satisfactorily. Investigation required.

3. Semester End Student's Survey

Procedure: All Students complete the Department of Computer Science & Engineering Course Feedback Form Online (End of Semester Survey) for each course at the conclusion of the semester. The form contains questions that address faculty beliefs and concerns in areas related to general program outcomes and program specific outcomes related to the course. (Annexure-5)

Desire Metric & Scale:

(i) Score (≥ 4):- The course addressed the program outcome well. No further investigation required.

(ii) Score ($3 \leq x < 4$):- The course addressed the program outcome satisfactorily. No investigation required.

(iii) Score (<3):-The course did not address the program outcome satisfactorily. Investigation required.

Department of Computer Science and Engineering
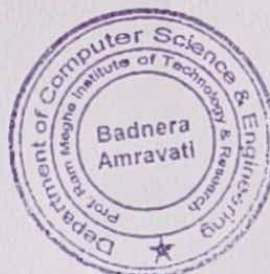
4. Parent Feedback Report

Procedure: The Parent Meets are organized by the Department of Computer Science & Engineering, PRMIT & R, Bandera twice in a year with the objective of discussing with parents regarding their ward's performance and trying to settle their queries & inquiries. The motive behind the meet is to discuss all measures to be taken for the overall growth and development of the students so that they are able to cope up with the present day challenges. Parents of many students actively participated in the event with the positive approach & also offered some valuable suggestions with respect to operational issues. Annexure-5/page-28

Desire Metric & Scale:

The prime stakeholders, Parents were then requested to solicit their suggestions if any .The following suggestions/ expectations came forward.

1. Parent should be informed about the activities conducted in the department through SMS.
2. Faculty should contact parent through SMS if their ward is absent in the class.
3. General Awareness classes for Students.
4. Competitive Examination classes for students.
5. Career orientation classes for students.
6. Bus Facility by college or city bus at college timing.

Scale:

(i) Excellent Score (4):- The course addressed the program outcome well. No further investigation required.

(ii) Very Good Score($3 \leq n < 4$):- The course addressed the program outcome satisfactorily.　No investigation required.

(iii) Good Score ($<3n<2$):-The course address the program outcome near to satisfactory so need improvement.

(iv) Average Score ($<2n<1$):-The course did not address the program outcome satisfactorily. Investigation required.

(v) Below Average Score (<1):-The course did not address the program outcome satisfactorily. Investigation required.

TABLE2.1 : ASSESSMENT INSTRUMENTS AND METRICS

Source Unit	Instrument/ Description	Constituent	Frequency/ Timing	Program Outcome Assessed	Quantifiable	Subjective	Level of Use Primary	Level of Use Secondary	Expected Result	Review and Action Taken
SGBAU	Semester End Exams	Students	Twice Yearly/ After Declaration of Results	Outcomes related to course	•		•		(i) 70% students will be successful in each course. (ii) 60% will secure 1ˢᵗ division	HOD & Sr. faculty
Department	Class Tests	Students	Twice per Semester	Outcomes related to course	•		•		Sincere attempt, good performance & follow-up of mistakes of students by faculty	Concerned faculty
Department	Rubrics-1	Students	Once per Semester for selected courses	For Outcomes 'PO3' and 'PO11'		• (2)		•	"Inadequate" category: max 10%, "Adequate": max 20%, "Good": min 60%, "Superior": min 70%	Concerned faculty
Department	Rubrics-2	Students	Once per Year for Fine Project Work	For Outcomes 'PO9' & 'PO11'	• (2)	• (2)		•	"Inadequate" category: max 10%, "Adequate": max 20%, "Good": min 60%, "Superior": min 70%	Concerned faculty
Department	Rubrics-3	Students	Once in Year Seminar Presentation	For Outcomes 'PO10'	• (2)	• (2)		•	"Inadequate" category: max 10%, "Adequate": max 20%, "Good": min 60%, "Superior": min 70%	Concerned faculty
Department and Alumni Association	Alumni Survey	Alumni	Yearly	All		•		•	≥ 70%	Survey Assessment Committee
PRMIT&R and Department	Employers Survey	Employers	Yearly	All		•		•	≥ 70%	Survey Assessment Committee
Department	Senior Student Exit Opinion	Final Yr. Students	End of Academic year during farewell	All		•		•	Honest assessment & suggestions from students	HOD, Faculty & T&P activities
Department	Semester End Survey	All Students	Semester	All POs mapped with respective COs		•		•	≥ 70%	Survey Assessment Committee
Sports & NSS Unit	Sports and NSS Unit	Students	Yearly/ End of Academic year	For Outcomes 'PO9', 'PO10' and 'PO6'		•		•	Active participation depicting professionalism and enthusiasm	Sports Director and Department NSS Coordinator
Department	Activities of Professional Societies	Students	Yearly/ Semester	For Outcomes 'PO6' and 'PO8'		•		•	Active participation depicting professionalism and enthusiasm	Concerned faculty

Notes:

1. Based on the advice / recommendation by various committees, action will be initiated by HOD along with Accreditation coordinator.

2.   It should be noted that a rubric is basically subjective & its quantification is not definitive.

The modern thinking of bringing the students to the stage of "Analyze-Apply-Analyze" rather than just "retrieve & comprehend" has led to additional Industrial training, Slides, Video Lectures, discussion of practical problems, exposure to expert lectures etc. Our excellent results on academic front & subsequent success of our students, as evident from the supporting documents, is an indicator of our journey being on track. We welcome evaluation committee's appraisal & assure to wholeheartedly implement remedial measures suggested by the IAAC body.

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B. Assessing for Attainment of each Program Outcomes (POs)

Following list shows the Program Outcomes and Program Specific Outcomes for the Programme Computer Science & Engineering:

- **Program Outcomes (PO's)**
  Engineering Graduate will be able to:

PO1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2. Problem analysis: Identify, formulate, review research literature, and analyse complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3. Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a

member and leader in a team, to manage projects and in multidisciplinary environments.

PO12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

- **Program Specific Outcomes (PSO's)**

PSO1: Foundation of Computer System Development: Ability to use knowledge of computer systems and design principles in building the hardware and software components / products in the domain of embedded system, artificial intelligence, databases, networking, web technology and mobile computing.

PSO2: Problem Solving Ability: Ability to apply knowledge in various problem domains and implement innovative and suitable solutions to cater to needs of industry, business and e-governance by imbibing highest ethical and economical values.

Attainment of each Program Outcomes (POs)

Attainment of Program outcome (PO1) & (PO2):

Our results are an indication of the attainment of program outcome (PO1) & (PO2). The very fact that many of our students have successfully completed post-graduation program & some have even pursuing PhD adds credence to the above claim. M.E. dissertation & PhD work at times involves lots of experimentation & almost always requires sound knowledge of basic science subjects. Moreover some of the final year project work involves lots of testing which again requires sound knowledge of basic subjects

The question papers of science subjects, the answer sheets of class tests & the university examination & the laboratory journals at our disposal support the attainment of these program outcomes.

Attainment of Program outcome (PO3):

Good performance of our students in design subjects & Project is a pointer to the achievement of this outcome. Many of our students are either working as Software Engineer and also some students are independently working as a freelancer or having their own software unit, which is an affirmation of their ability to design a system, component, or process to meet desired needs within realistic constraints.

Copies of Lab Manuals, Assignments as well as Project Reports of final year team member at our disposal support the achievement of the PO3.

To determine how well student learning outcomes are being achieved, a rubric can be a very useful tool. We have developed the following Rubric for carrying out the assessment:

Rubric: Each student is evaluated along four dimensions, these having to do respectively with the student's comprehension of the problem, his ability to analyze & calculate loads & forces, how effectively the student designs keeping in mind the primary & secondary provisions of IS code, and the quality of his or her detailing of the design carried out. Each of these dimensions is
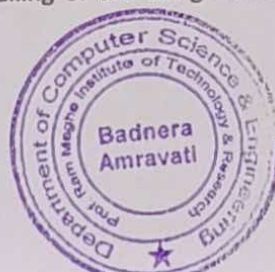
assigned a score of 3 through 0, these values representing decreasing degrees of achievement in the particular dimension, as described in the table below in the rows corresponding to the various dimensions. The last rows are the actual scores assigned to a particular student, based on his or her actual performance, along the four dimensions. The overall total score is assigned by simply adding together the scores corresponding to the four dimensions.

RUBRIC 1:for Program Outcome (PO3): An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability. & (PO4): an ability to identify, formulate and solve complex engineering problems.

Name of student being evaluated:_____

Skill	Superior (03)	Good (02)	Adequate (01)	Inadequate (00)	Marks
Problem Identification	Attains the definition phase clearly	Defined but no precise	Problem domain not clear initially	Could not understand, realize and identify problem	
Analysis	Correctly analyzed the economic, technical feasibility, and specified requirements	Checked economic, technical feasibility with some refinements	Needs multiple review from faculty for feasibility and Specification of requirements	Does not evaluate feasibility and requirements even though multiple review from faculty	
Design	Design is effective, Implementable & professional	Design is effective & Improved but inputs required from faculty	Design is effective, iterative & needed to make it feasible for implementation	Solution reached with the help from faculty & batch-mate but ambiguity remains	
Detailing	The student demonstrates excellent know-how in writing documents with test results	The student demonstrates considerable know-how in writing documents with test results	The student demonstrates average know-how in writing documents with test results	The student does not demonstrates know-how in writing documents with test results	

Evaluator's name: _____

Total Marks (Max 12): _____

Attainment of Program outcome (PO4):

As mentioned previously, many of our alumni are either working as independent software developer or are working in software multinational companies. These are the fields where the ability to identify, formulate and solve engineering problems are tested to the hilt. The success of our students in this competitive field is an indicator of this program outcome. As a matter of fact, working as a software engineer post anywhere (in a government or private sector posting) has to face all sorts of novel problems on a day to day basis. We feel proud of our students rising higher up in the hierarchy everywhere & consider it as a signal to the attainment of this PO.

Furthermore, a questionnaire sent to some of the software firms and revealed their satisfaction at the performance of our students as problem solvers.

Rubric for this program outcome will be the same as for (PO3)

Copies of assignments, question papers of design subjects, answer sheets as well as Project Reports of final year projects in our record support the accomplishment of this PO.

Attainment of Program outcome (PO5):

As already mentioned, many of our alumni are employed with Multinational Company as Software Engineer, Developer, Analyst, Tester, Consultant or working as a Entrepreneur (having own software unit). They have to necessarily develop the ability to use the techniques, skills and

modern engineering tools necessary for engineering practice because of the competition.

Our students have analyzed & designed many softwares and applications using various professional software and Open Source software.

The journals of design subjects & the final year Project report gives idea about the success of this PO.

Attainment of Program outcome (PO6):

Our "Alumni feedback" reveals that many of our ex-students attend at least one skill development program per year. Those in teaching field automatically do better. Motivating students for higher studies by providing proper guidance and conducting competitive exam training like Aptitude exam, GATE etc. Today's world of globalization & technological upheavals make it imperative for most to indulge in lifelong learning to stay in the race. This is clear from the Employer Survey conducted by us where the employers reveal their inclination to encourage their employees to attend such programs. Membership of professional bodies further helps in lifelong learning.

Attainment of Program outcome (PO7):

The department lays enough emphasis on inculcating the need for economical, social, environmental & sustainable solutions to engineering problems. But the actual achievement of this outcome is most difficult to evaluate. At any given instance this outcome depends on a full breadth of factors like the local laws, prevailing political climate, state of economy etc. on a macro level & client's/customer's mindset & financial position, boss/administration's view point on a micro level. It also depends on the family background of an alumnus. The department holds a balanced/rational view on this intended outcome. Our results & the performance of our students is an indication that they are geared to take a holistic view of engineering problems & their solutions from a wider perspective.

Attainment of Program outcome (PO8):

The phenomenal success of our students as Software Engineer, Developer, Analyst, Tester Consultant and Entrepreneur (having own software unit) can be mapped to their professionalism & ethical practices. In a world where they have to compete with the rich & the influential, it is their professionalism; ethics & the image of a "technocrat" that gives them the edge.

We encourage our students to become members of Computer Society of India (CSI) Student's chapter during graduation & most of them follow suit. They are further advised to become members of professional bodies like IETE, Institution of Engineers (IE) and ISTE after graduation, to inculcate ethics in them.

Employer survey conducted by us has also given thumbs up to our students when it comes to ethics. The list of membership of CSI Students' chapter is available.

Attainment of Programme outcome (PO9):

Mostly in Computer field there are multidisciplinary applications and software are present. Computer Engineers has to deal with multidisciplinary type of project design and also need to work with different streams. Some of our students are employed in Navy, Army, Banking and Finance company where they have to coordinate with different educational field people. A small percentage has entered other fields like business and freelancing work. Many have become very successful entrepreneurs especially having their own Software Company where they have to get involved in managerial practices like marketing management, financial management, men &

material management etc. In a survey conducted by us, our ex-students were categorical that their curriculum went a long way in helping them tackle multidisciplinary problems.

During engineering, hardly any opportunities arise to assess the ability to function on multidisciplinary teams. We have developed the following Rubric for carrying out the assessment of team spirit in our students. **We believe a good "Team man" will be a good team man, whether in his own field or in a multi-disciplinary team.**

Rubric: Each student is evaluated along three dimensions, these having to do respectively with the student's contribution to the project work, how effectively the student discharged his or her responsibilities as a member of the team, and the quality of his or her interactions with the other team members. Each of these dimensions is assigned a score of 3 through 0, these values representing decreasing degrees of achievement in the particular dimension, as described in the table below in the rows corresponding to the various dimensions. The last row is the actual scores assigned to a particular student, based on his or her actual performance, along the three dimensions. The overall total score is assigned by simply adding together the scores corresponding to the three dimensions.

RUBRIC2: for Program Outcome (PO9): An ability to function on multidisciplinary teams

Name of person being evaluated: _____

Course and year of evaluation: **Final year Project**

Skill	Superior (03)	Good (02)	Adequate (01)	Inadequate (00)	Marks
Contribution to the team project/work	Collects and presents to the team a great deal of relevant information; offers well-developed and clearly expressed ideas directly related to the group's purpose.	Collects basic, useful information related to the project; occasionally offers useful ideas to meet the team's needs.	Collects information when prodded; tries to offer some ideas, but not well developed, and not clearly expressed, to meet team's needs.	Does not collect any relevant information; no useful suggestions to address team's needs.	
Taking responsibility	Performs all tasks very effectively; attends all meetings and participates enthusiastically; very reliable.	Performs all assigned tasks; attends meetings regularly and usually participates effectively; generally reliable.	Performs assigned tasks but needs many reminders; attends meetings regularly but generally does not say anything constructive.	Does not perform assigned tasks; often misses meetings and when present, does not have anything constructive to say; relies on others to do the work.	
Valuing other team members	Always listens to others and their ideas; helps them develop their ideas while giving them full credit; Emerges a Leader by the end.	Generally listens to others' points of view; always uses appropriate and respectful language; tries to make a definite effort to understand others' ideas, lacks leadership.	Usually does much of the talking; does not pay much attention when others talk, and often assumes their ideas will not work, no personal attacks but not optimistic	Docile, disinterested & pessimistic	

Evaluator's name: _____

Total Marks (Max 9): _____

Attainment of Program outcome (PO10):

Many of our alumni have joined the education stream where good communication is a prime requisite. But good communication doesn't just mean command over language. It is all about transferring one's ideas to the other person, listening to & understanding the problems of one's clients/customers. The success of our alumni as Software Engineer, Developer, Analyst, Tester Consultant and Entrepreneur (having own software unit) is a fair assessment of their effective communication.

The following Rubric is used for carrying out the assessment of PO:

Rubric: Each student is evaluated along four dimensions, these having to do respectively with the student's organization of material, his ability to develop & understand the central theme of his seminar, how effectively the student present his or her seminar, and the quality of his or her interactions with the audience. Each of these dimensions is assigned a score of 3 through 0, these values representing decreasing degrees of achievement in the particular dimension, as described in the table below in the rows corresponding to the various dimensions. The last rows are the actual scores assigned to a particular student, based on his or her actual performance, along the four dimensions. The overall total score is assigned by simply adding together the scores corresponding to the four dimensions.

RUBRIC 3: for Program Outcome (PO10): **An ability to communicate effectively**
Name of person being evaluated: _____
Course and year of evaluation: 7th semester Seminar

Skill	Superior (03)	Good (02)	Adequate (01)	Inadequate (00)	Marks
Organization	Extremely well organized content & delivery	Well organized content but average delivery	Average content & delivery	Ill organized content & poor delivery	
Idea development	Systematic & sequential presentation	Sequential but not so systematic presentation	Gaping holes but still manages to convey	Fails to develop & convey the basics	
Can draw appropriate conclusions.	Draws appropriate conclusion and thoroughly and accurately explains why the conclusion is drawn.	Draws appropriate conclusion, but only briefly explains why the conclusion is drawn.	Draws appropriate conclusion, but either do not explain or is not entirely accurate in the explanation.	Either draws no conclusion or draws an inappropriate conclusion.	
Audience awareness	Spellbound	Interested	Aware but uneasy	Totally lost	
Evaluator's name: _____					
Total Marks (Max 12): _____					

Attainment of Program outcome (PO12):

Our "Alumni feedback" reveals that many of our ex-students attend at least one skill development program per year. Those in teaching field automatically do better. Motivating students for higher studies by providing proper guidance and conducting competitive exam training like Aptitude exam, GATE etc. Today's world of globalization & technological upheavals make it imperative for most to indulge in lifelong learning to stay in the race. This is clear from the Employer Survey conducted by us where the employers reveal their inclination to encourage their employees to attend such programs. Membership of professional bodies further helps in lifelong learning.

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Attainment of Program outcome (PSO1):

As mentioned previously, in **POs PO1, PO2 and PO3** and also results are an indication of the attainment of program outcome. The very fact that many of our students have successfully completed post-graduation program & some have even pursuing Ph D adds credence to the above claim. M.E. dissertation &Ph D work at times involves lots of experimentation & almost always requires sound knowledge of fundamental computer science and engineering subjects.

The question papers of fundamental computer science subjects, the answer sheets of class tests & the university examination & the laboratory journals at our disposal support the attainment of these program outcomes.

Attainment of Program outcome (PSO2):

Students are having Free Electives and Professional Electives in their Syllabus Scheme and continuously encouraged to opt different subjects. In syllabus CGS scheme recent and impactful subjects are being included, so the students get knowledge regarding the recent change in the field. Also Guest Lecturers, Short Term Training Program and Workshops are conducted throughout the years in order to give knowledge to the students about the future changing scenario in the field. Our "Alumni feedback" reveals that many of our ex-students attend at least one skill development program per year. A good number of our alumni are now very successful in Multinational Companies and as an. This is one PO where our students have excelled over the years. A good number of our alumni are now very successful in Multinational Companies and as an Entrepreneur giving jobs to others. Our alumni database is a proof of achieving this PSO2.

Summary of Assessment Methodology

POs	POs Subcomponents	Assessment Methodology
PO1	1 (mathematics)	Class unit test questions
	2 (science)	Class unit test questions
	3 (engineering)	In-class problems, Class unit test questions, Group Design for Projects, Rubric
PO2	1 (design)	Unit test questions, In-class problems, Group Design Projects, Rubric
	2 (conduct)	Lab Work Evaluation (ACPV), Project Demonstration
	3 (analyze)	Lab Work Evaluation (ACPV), Project Demonstration, Project Report
	4 (interpret)	Lab reports, Project Demonstration
PO3	1(Design)	In-class problems, Group Design Projects, Individual Design Project Reports, Homework, Rubric
PO4		Mini & Major Project, Extra & Co-curricular activities, Rubric
PO5		In-class problems, Homework, moodle online platform for the resources sharing and assessment, Exam questions, Rubric
PO6		Employer Survey, Membership of Professional bodies
PO7	1 (written)	Framing of Seminar reports & Project Reports
	2 (oral)	Seminar Presentation & classroom interaction, Rubric
PO8	1 (economic)	Homework on Design problems, Group Design Projects, Exams
	2 (environmental)	Group discussion, Result of environmental science subjects
	3 (global and societal)	Group design projects
PO9		Membership of Professional bodies, Propensity to attend Seminars & Workshops
PO10		In-class discussions, Choice of Seminar topic, Level of General knowledge.
PO11	1 (techniques)	Lab Reports, Group Design Projects
	2 (skills)	Exams, In-class problems
	3 (tools)	Designs & Illustration, Video presentation in support of Seminar
PO12		In-class discussions, Actual status of the alumnus after 4-5 years
PSO1		Actual status of the alumnus after 4-5 years alumnus survey
PSO2		Group Design Projects , Actual status of the alumnus after 4-5 years

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C. Result of POs & PSOs Attainment and Actions

Illustrated result of assessments of each PO

Result of assessment is based on process used for assessing the Attainment of each Program Outcomes (POs) mentioned above. Some POs assessment is based on Rubrics, feedback forms from alumni, faculty assessment and students feedback. Another assessment is based on indirect methods.

Table- A :Expected Level of Attainment of all POs at a glance.

Expected Level of Attainment	Program Outcomes (POs)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
From Direct Method	70 %	70 %	70 %	70 %	70 %	70 %	70 %	70 %	70 %	70 %	70 %	70 %	70 %	70 %
From Indirect Survey	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%

Table-B :Actual Level of Attainment of all POs at a glance.

Obtained Level of Attainment	Program Outcomes (POs)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
From Direct Method	76.25 %	74.00 %	74.2 5%	72.75 %	76.2 5%	74.2 5%	73.7 5%	74.0 0%	76.2 5%	78.00 %	76.75 %	78.25 %	77.50 %	76.75 %
From Indirect Survey	76%	74%	74%	73%	76%	74%	74 %	74%	76%	78%	77%	78%	78%	77%

The above "Table-A" reveals about our Expected Level of Attainments for POs. Number of surveys like Senior Exit Survey, Alumni Survey, Employer Survey and Faculty Surveys are carried out.

The survey questions asked to the respondents were not direct so as to extract affirmative response or confirm the POs but indirect, to elicit the required information & draw conclusion.

Our findings through various Rubrics reveal that 20% students belong to the 'Superior' category,50% belong to 'Good' category, 20% students belong to 'Adequate' category whereas 10% belong to 'Inadequate' category.

Considering that the same set of students belong to 'Superior' category under each skill but by & large, maximum 20% students belongs under 'Inadequate' category in any Rubric out of which 10-15 % make the grade consistently.
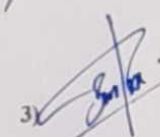
Department of Computer Science and Engineering

Thus the results obtained "*Table-B*" are aggregated result for attainment of POs through all tools using direct and indirect methods. This can be stated based on the data generated by different assessment reports given below.

The actions such as change in content delivery methods/ change in resource material/ additional text books/ additional or remedial classes / guest lectures / workshops to cover contents beyond syllabus etc. are recommended so as to achieve the desired Program Outcomes and hence meet the Program education objectives. Also, yearly tracking of all quantitative assessments instruments is recommended by the DAAC.

Sr. No.	Year	Action	In Response to	PO's Reinforced / Improved
1	2017-18	New Syllabus Scheme Credit Grade System (CGS) introduced by SGBAU, Amravati.	As per AICTE Recommendation	PO5
2	2017-18	Conducted training programs under Computer Society of India (CSI) Student's Chapter	To acquire new techniques, skills, modern engineering tools.	PO8, PO6, PO5, PSO2.
3	2017-18	Short Term Training Program on "Machine Learning using R"	Continue Education for faculty and indirect benefit to the Graduate	PO6
4	2017-18	Faculty attended various conferences and STTP.	Continue Education for faculty and indirect benefit to the Graduate	PO12,PO6, PSO2,PSO1
5	2017-18	FThe department suggested to the BOS of University for updating curriculum as per AICTE Model Curriculum	In view of the global trend & as per AICTE's recommendation	PO4,PO11

Coordinator

Committee Members

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HOD / Chairman

PART-II Programme Assessment Analysis

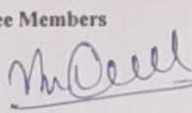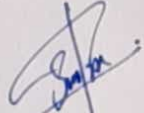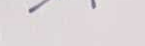*Actual Level of Attainment of all POs at a glance.*

Obtained Level of Attainment	Program Outcomes (POs)													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
From Direct Method	76.25%	74.00%	74.25%	72.75%	76.25%	74.25%	73.75%	74.00%	76.25%	78.00%	76.75%	78.25%	77.50%	76.75%
From Indirect Survey	76%	74%	74%	73%	76%	74%	74%	74%	76%	78%	77%	78%	78%	77%

Department of Computer Science & Engineering

Year 2017-18

Assessment Sheet of PO's & PSO's Attained By Direct Methods

Survey	PO1	PO2	PO3	PO4	PO6	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
University Exam Result	76%	73%	76%	69%	76%	73%	68%	71%	76%	81%	79%	82%	79%	78%
Internal Assessment	71%	68%	66%	68%	71%	69%	71%	70%	72%	72%	69%	72%	72%	70%
Project Work	82%	81%	81%	81%	82%	81%	82%	81%	81%	81%	82%	81%	81%	82%
Seminar Presentation	76%	74%	74%	73%	76%	74%	74%	74%	76%	78%	77%	78%	78%	77%
Average	76.25%	74.00%	74.25%	72.75%	76.25%	74.25%	73.75%	74.00%	76.25%	78.00%	76.75%	78.25%	77.50%	76.75%

Department of Computer Science & Engineering

Year 2017-18

Assessment Sheet of All Surveys & Feedbacks by Indirect Method

PO's & PSO's Attained

Survey	PO1	PO2	PO3	PO4	PO6	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Alumni Survey	76%	73%	76%	69%	76%	73%	68%	71%	76%	81%	79%	82%	79%	78%
Senior Exit Survey	71%	68%	66%	68%	71%	69%	71%	70%	72%	72%	69%	72%	72%	70%
End of Semester survey	82%	81%	81%	81%	82%	81%	82%	81%	81%	81%	82%	81%	81%	82%
Average Assessment	76%	74%	74%	73%	76%	74%	74%	74%	76%	78%	77%	78%	78%	77%

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Annexure-1

Summary Sheet of Result Analysis Direct Attainment Year 2017-18 PO's
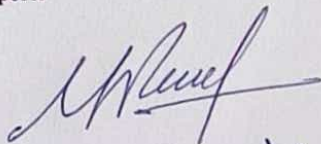
Department of Computer Science & Engineering													
Year 2017-18													
Assessment Sheet of Semester 3 & 4 University Exam Result													
	PO1	PO2	PO3	PO4	PO6	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Second Year odd	4.12	4.10	4.07	4.05	4.13	4.06	4.09	4.06	4.12	4.10	4.12	4.08	4.08	4.10
Second Year even	4.11	4.09	4.07	4.06	4.14	4.06	4.10	4.06	4.13	4.14	4.13	4.08	4.05	4.11
Average Assessment	4.11	4.09	4.07	4.05	4.13	4.06	4.09	4.06	4.12	4.12	4.13	4.08	4.07	4.10

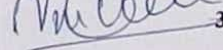| **Assessment Sheet of Semester 5 & 6 University Exam Result**													
Third Year odd	4.19	4.2	4.20	4.15	4.18	4.22	4.17	4.19	4.28	4.18	4.24	4.20	4.20	4.22
Third Year even	3.88	3.82	3.85	3.84	3.85	3.81	3.89	3.86	3.85	3.85	3.85	3.84	3.81	3.84
Average Assessment	4.03	4.01	4.02	3.99	4.01	4.01	4.03	4.02	4.06	4.01	4.04	4.02	4.00	4.03

Assessment Sheet of Semester 7 & 8 University Exam Result													
Final Year odd	4.16	4.10	4.08	4.11	4.15	4.11	4.15	4.02	4.01	4.08	4.15	4.11	4.14	4.13
Final Year even	4.02	3.97	3.96	4.02	4.02	3.97	3.97	3.95	3.98	3.95	3.99	4.00	4.02	4.11
Average Assessment	4.09	4.03	4.02	4.07	4.08	4.04	4.06	3.98	3.99	4.02	4.07	4.06	4.08	4.12

Assessment Report:
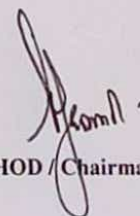
Coordinator

Committee Members

1)   3)   5)

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HOD / Chairman

Department of Computer Science and Engineering

UG Program: B.E. (Computer Science & Engineering)

Result Analysis: Semester I/ III/V/VII (Winter- AY 2017- 2018)

THIRD SEMESTER	RESULT BASED ON SGPA
Total Number of students Appeared	216
Total Number of students passed	113
Overall Passing Student %	52.31%
% of students with Distinction	14.81%
% of students with First Class	34.26%
% of students with Second Class	3.24%

Subject wise Result Analysis for current semester:-
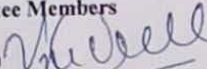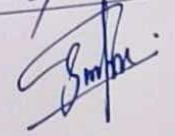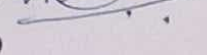
Sr. No	Code	Subject/ Course	Section	Appeared	Passed	Pass %	Agv. %	Name of faculty
1	10303	MIII	A	75	60	80.00	64.93	Prof.R.V.Deshmukh
			B	71	44	61.97		Prof.D.G.More
			C	70	37	52.86		Prof.D.V.Kapse
2	10304	PM	A	75	60	80.00	81.01	Prof.P.P.Deshmukh
			B	71	62	87.32		Prof.D.H.Deshmukh
			C	70	53	75.71		Prof.A.A.Chaudhari
3	10305	EDC	A	74	54	72.97	64.02	Prof.G.B.Saboo
			B	71	46	64.79		Prof.A.B.Pahurkar
			C	70	38	54.29		Prof.A.B.Pahurkar
4	10306	DS	A	75	72	96.00	91.08	Prof.Y.S.Alone
			B	71	66	92.96		Prof.N.A.Deshmukh
			C	70	59	84.29		Prof.K.R.Hole
5	10307	CO	A	75	59	78.67	73.02	Prof.S.W.Ahmad
			B	71	52	73.24		Prof.P.K.Agrawal
			C	70	47	67.14		Prof.R.R.Karwa

FIFTH SEMESTER	RESULT BASED ON SGPA
Total Number of students Appeared	233
Total Number of students passed	159
Overall Passing Student %	68.24%
% of students with Distinction	14.60%
% of students with First Class	40.34%
% of students with Second Class	13.30%

Sr. No	Code	Subject/ Course	Section	Appeared	Passed	Pass %	Agv. %	Name of faculty
1	10332	DC	A	78	59	75.64	80.04	Prof.G.j.Sawale
			B	73	66	90.41		Prof.G.A.Jagnade
			C	81	60	74.07		Prof.A.U.Chaudhari
2	10333	FSDP	A	79	64	81.01	84.72	Prof.K.H.Deshmukh
			B	73	68	93.15		Prof.K.H.Deshmukh
			C	70	87.50	80		Dr.S.R.Gupta
3	10334	SS	A	79	63	79.74	85.02	Prof.N.M.Tarbani
			B	73	67	91.78		Prof.S.S.Dandage
			C	79	66	83.54		Prof.R.A.Kale
4	10335	STLD	A	78	62	79.48	85.57	Prof.S.W.Ahmed
			B	73	69	94.52		Prof.R.A.Gulhane
			C	81	67	82.71		Prof.R.R.Karwa
5	10336	CS	A	79	70	88.60	86.46	Prof.Ghazala Parveen
			B	73	67	91.78		Prof.Ghazala Parveen
			C	81	64	79.01		Prof.Ghazala Parveen

Coordinator

Committee Members

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HOD / Chairman

Department of Computer Science and Engineering
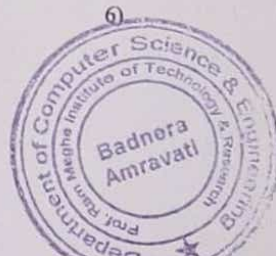
	SEVENTH SEMESTER	RESULT BASED ON SGPA
Total Number of students Appeared		215
Total Number of students passed		196
Overall Passing Student %		91.16%
% of students with Distinction		43.72%
% of students with First Class		45.11%
% of students with Second Class		2.33%

Sr. No	Code	Subject/ Course	Section	Appeared	Passed	Pass %	Agv. %	Name of faculty
1	4281	DSP	A	71	69	97.18	93.59	Prof. S. G. Pundkar
			B	76	68	89.47		Dr. V. M. Deshmukh
			C	68	64	94.12		Prof. A. A. Chaudhari
2	4283	CN	A	71	69	97.18	97.67	Dr. G. R. Bamnote
			B	74	72	97.30		Prof. P. K. Agrawal
			C	68	67	98.53		Prof. R. A. Meshram
3	4284	DAA	A	71	68	95.77	94.88	Prof. N. V. Pardakhe
			B	76	72	94.74		Prof. P. B. Lohiya
			C	68	64	94.12		Dr. S. R. Gupta
4	4285	OOAD	A	71	70	98.59	99.04	Dr. M. A. Pund
			B	74	74	100.00		Dr. M. A. Pund
			C	68	67	98.53		Prof. N. S. Khachane
5	4287	WE	A	71	71	100.00	98.18	Prof. S. P. Akarte
			B	75	72	96.00		Prof. S. P. Akarte
			C	68	67	98.53		Prof. A. U. Chaudhari

UG Program: B.E. (Computer Science & Engineering)
Result Analysis: Semester II/ IV/VI/VIII (Summer AY 2017 - 2018)
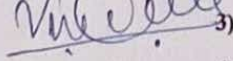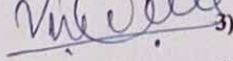
FOURTH SEMESTER	RESULT BASED ON SGPA	OVERALL RESULT BASED ON CGPA
Total Number of students Appeared	212	-
Total Number of students Passed	153	-
Overall Passing Student %	72.17%	-
% of students with Distinction	31.13%	-
% of students with First Class	33.96%	-
% of students with Second Class	7.08%	-

Subject wise Result Analysis for current semester:-

Sr. No	Code	Subject	Section	Appeared	Passed	Pass %	Agv. %	Name of faculty
1	10311	DS	A	75	68	90.67	90.46	Prof.Ms. D.H. Deshmukh
			B	68	63	92.65		Prof.G.J.Sawale
			C	67	59	88.06		Prof. Ms.R.A.Kale
2	10312	ADIC	A	75	70	93.33	85.85	Prof.G.B. Saboo
			B	68	55	80.88		Prof.Ms. A.B. Pahurkar
			C	66	55	83.33		Prof.Ms. A.B. Pahurkar
3	10313	OOP	A	75	70	93.33	89.36	Prof. Ms. N.V. Pardhake
			B	68	62	91.18		Prof.S.P.Akarte
			C	67	56	83.58		Prof.Ms. R.A. Meshram
4	10314	ALP	A	75	74	98.67	91.60	Prof.Ms.P.B. Lohiya
			B	68	60	88.24		Prof.N.M.Tarbani
			C	66	58	87.88		Prof. N.S.Khachane
5	10315	TOC	A	75	63	84.00	77.72	Prof. S.S. Dandge
			B	68	53	77.94		Prof. S.S. Dandge
			C	66	47	71.21		Prof. Ms. K.R.Hole

Coordinator

Committee Members

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HOD / Chairman

Department of Computer Science and Engineering

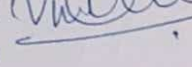| SIXTH SEMESTER	RESULT BASED ON SGPA	OVERALL RESULT BASED ON CGPA
Total Number of students Appeared	233	-
Total Number of students Passed	146	-
Overall Passing Student %	62.66%	-
% of students with Distinction	3.43%	-
% of students with First Class	42.49%	-
% of students with Second Class	16.74%	-
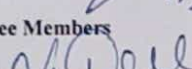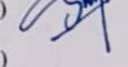
Sr. No	Code	Subject	Section	Appeared	Passed	Pass %	Agv. %	Name of faculty
1	10332	OS	A	79	54	68.35	71.81	Prof.G.R. Bamnote
			B	72	57	79.17		Prof.V.M.Deshmukh
			C	81	55	67.90		Prof. A.A.Chaudhari
2	10333	DBS	A	79	66	83.54	87.67	Prof.Ms.Y.S.Alone
			B	72	67	93.06		Prof. P.P.Deshmukh
			C	81	70	86.42		Prof.R.R. Karwa
3	10334	CRM	A	78	64	82.05	84.16	Prof.G.J.Jagnade
			B	71	64	90.14		Prof. Ms.M.A.Deshmukh
			C	81	65	80.25		Prof.Ms. K.R.Hole
4	10335	CA	A	79	62	78.48	79.09	Prof. S. P.Akarte
			B	72	61	84.72		Prof. S.H.Kuche
			C	81	60	74.07		Dr.S.R.Gupta
5	10336	PE	A	79	74	93.67	96.55	Prof. N.A.Deshmukh
			B	72	70	97.22		Prof. P.P.Kadu
			C	81	80	98.77		Prof. Ms. R.A. Kale

EIGHT SEMESTER	RESULT BASED ON SGPA	OVERALL RESULT BASED ON CGPA
Total Number of students Appeared	214	214
Total Number of students Passed	204	204
Overall Passing Student %	95.33%	95.33%
% of students with Distinction	89.72%	72.43%
% of students with First Class	5.61%	22.90%
% of students with Second Class	0	0

Sr. No	Code	Subject	Section	Appeared	Passed	Pass %	Agv. %	Name of faculty
1	10352	AI	A	70	69	98.57	98.59	Dr.M.A.Pund
			B	76	75	98.68		Dr.M.A.Pund
			C	68	67	98.53		Prof. S.V.Kalbande
2	10353	ES	A	70	69	98.57	97.23	Prof.P.K.Agrawal
			B	76	73	96.05		Prof.P.K.Agrawal
			C	68	66	97.06		Prof.A.U.Chaudhari
3	10354	SE	A	70	70	100.00	96.72	Prof.S.W.Ahmad
			B	76	73	96.05		Prof.S.W.Ahmad
			C	68	64	94.12		Dr.S.R.Gupta
4	10358	NS	A	70	70	100.00	99.51	Prof. S.V.Deshmukh
			B	76	76	100.00		Prof.N.M.Tarbani
			C	68	67	98.53		Prof.V.S.Sakharkar

Coordinator

Committee Members

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HOD / Chairman
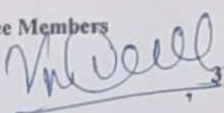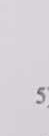
Annexure-2

Summary Sheet of RUBRIC-2 & RUBRIC-3 Year 2017-18 PO's Attained

No. of Students Analyzed	Semester	Subject	Maximum Marks	Obtained Marks	% of Program Outcome 'PO10' satisfied	Name of Faculty Analyzed
Summary Sheet for RUBRICS-3 for PO10						
Academic Year 2017-18						
71	VII th Sem 'A'	Seminar (7KS09)	852	796	93.40	All Guides
76	VII th Sem 'B'		912	648	71.06	All Guides
68	VII th Sem 'SS'		816	666	81.58	All Guides
215			2580	2110		
Average % of Program Outcome 'PO 10' satisfied					81.76	

No. of Students Analyzed	Semester	Subject	Maximum Marks	Obtained Marks	% of Program Outcome 'PO10' satisfied	Name of Faculty Analyzed
Summary Sheet for RUBRICS-2 for PO10						
Academic Year 2017-18						
71	VII th Sem 'A'	Project (8KS07)	639	615	96.30	All Guides
76	VII th Sem 'B'		684	660	96.48	All Guides
68	VII th Sem 'SS'		612	488	79.77	All Guides
215			1935	1763		
Average % of Program Outcome 'PO 10' satisfied					91.14	

Coordinator

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HOD / Chairman

Department of Computer Science and Engineering

Annexure-3

Alumni Feedback for the Programme

Summary Sheet of Alumni Feedback Survey Year 2017-18 PO's Attained

Assessment tools and processes used for evaluating the attainment of each PEO's, PO's & PSO's

The assessment process periodically documents and demonstrates the degree to which the **PEO's, PO's & PSO's** are attended. It also includes information on:

a) A listing and description of the assessment processes used to gather the data upon which the evaluation of each the program educational objectives and program outcomes are based. Examples of data collection processes may include but are not limited to specific exam questions, student portfolios, internally developed assessment exams, project presentations, nationally – norm exams, focused groups, industrial, advisory committee.

b) The Frequency with which these assessments processes are carried out.
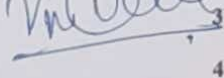
We rely on direct and indirect assessment methods; direct methods will be the primary source of assessment but indirect methods can supplement program outcomes assessment in productive way. Indirect assessment is gathering information through means other than looking at actual samples of student work. These include feedbacks, surveys, rubrics etc.

To conduct alumni survey report we prepared alumni feedback form and feedback is taken from the alumni for 2017-18.

In this year we received 26 feedback from alumni placed in various companies throughout the globe. The compilation report is given below which is based on marks obtained by each questions ranges from 1 to 4 of PEO's where 1= Fair, 2= Average, 3 = Good, and 4 = Excellent. Similarly ranges of PO's and PSO's assessment marks are 0 to 3 where 0= Disagree, 1 = Neutral, 2= Agree and 3 = Strongly Agree.

Table 1: Assessment of Program Educational Objectives (PEO's) from Alumni Feedback 2017-18

S.No.	Name of Students	PEO's RANGE: 1-4				
		PEO1	PEO2	PEO3	PEO4	PEO5
1	Shewata Jamaiwar	4	3	3	2	3
2	Heena V. Chainani	3	4	3	3	4
3	Said Hussain	3	4	3	4	3
4	Gauri Vinod Deshmukh	4	3	3	3	4
5	Rahul K Sanap	3	3	2	4	3
6	Pushpak S. Ubnare	3	3	2	4	4
7	Saurabh R Kurotiya	3	3	3	3	4
8	Rohit Barvekar	3	3	4	3	4
9	Shuajal J behare	4	3	4	3	4
10	Pooja patil	3	2	3	3	3
11	Gauri Thakare	4	4	4	3	4
12	Ketki Bakshi	4	4	4	4	4
13	Nikita S tayade	4	4	4	3	4

Sr. No.	Name				
14	Pragya Dixit	1	2	2	1	1
15	Pannu R Nikhade	3	3	4	3	3
16	Priyanka Harne	1	2	2	1	1
17	Subodh Pachkawde	3	2	4	3	3
18	Manoj Dane	3	3	3	4	4
19	Akash Ingole	4	3	3	3	4
20	Vaishnavi Khandar	3	4	3	3	4
21	Shubham Oza	4	4	3	4	4
22	Vivek Chavan	4	4	3	3	3
23	Shubham Khumkar	4	3	4	4	4
24	Shubham Dharashivkar	4	4	4	3	4
25	Siddhant Wankhade	4	4	4	3	4
26	Yashwant Joshi	3	3	4	3	4
	Sum	86	84	85	80	91
	Percentage Satisfied	82.69	80.77	81.73	76.92	87.5

Table 2: Assessment of Program Outcomes & Program Specific Outcomes (PO's & PSO's) from Alumni Feedback 2017-18

Sr. No.	Name of Students	PO's and PSO's Range : 0-3													
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
1	Shewata Jamaiwar	2	2	2	2	2	2	2	2	2	2	2	2	2	2
2	Heena V. Chainani	1	2	2	1	2	2	1	2	2	3	2	2	2	2
3	Said Hussain	2	2	2	2	2	2	2	2	2	2	2	2	3	3
4	Gauri Vinod Deshmukh	3	3	3	3	3	3	3	3	3	3	3	3	2	3
5	Rahul K Sanap	2	3	2	2	3	2	3	2	2	3	2	3	2	3
6	Pushpak S. Ubnare	2	2	3	2	1	2	2	2	3	2	2	2	2	3
7	Saurabh R Kurotiya	3	3	3	2	3	3	2	1	3	3	3	3	2	3
8	Rohit Barvekar	3	3	3	3	3	2	2	2	3	3	3	3	3	3
9	Shuajal J behare	3	2	3	2	3	2	2	1	3	3	3	3	2	3
10	Pooja patil	1	2	1	1	1	2	0	1	2	3	2	3	2	2
11	Gauri Thakare	2	2	2	2	2	2	2	2	2	2	2	2	2	2
12	Ketki Bakshi	3	3	3	3	3	3	3	3	3	3	3	3	3	3
13	Nikita S tayade	1	2	2	2	3	2	2	2	2	2	2	2	2	3
14	Pragya Dixit	3	2	2	2	2	2	2	2	2	2	2	2	2	2

15	Pannu R Nikhade	2	1	2	2	2	2	3	2	2	3	2	3	2	2
16	Priyanka Harne	3	2	2	2	2	2	2	2	2	2	2	2	2	2
17	Subodh Pachkawde	2	2	2	2	1	2	2	3	2	1	2	2	3	2
18	Manoj Dane	2	3	2	1	2	3	2	3	2	2	3	3	3	3
19	Akash Ingole	3	3	0	3	3	3	3	3	0	3	3	3	3	3
20	Vaishnavi Khandar	2	2	3	2	1	2	2	2	2	2	2	2	2	2
21	Shubham Oza	2	2	2	3	3	3	2	2	2	3	3	2	3	3
22	Vivek Chavan	3	3	2	2	2	2	3	3	3	2	3	3	3	3
23	Shubham Khumkar	3	2	3	3	2	1	2	3	2	3	2	2	3	2
24	Shubham Dharashivkar	2	1	3	2	3	2	1	2	3	2	1	2	3	3
25	Siddhant Wankhade	2	1	3	2	3	2	1	2	3	2	3	2	2	2
26	Yashwant Joshi	2	2	2	1	2	2	2	1	2	2	3	3	2	3
	Sum	59	57	59	54	59	57	53	55	59	63	62	64	62	67
	Percentage Satisfied	75.64	73.08	75.64	69.23	75.64	73.08	67.95	70.51	75.64	80.77	79.49	82.1	79.49	85.9

From above compilation of Alumni feedback questions and mapping to PEO's, PO's and PSO's we observed attainment (Satisfaction) for the program Computer Science & Engineering.

As per the assessment metrics the excepted attainment level of PEO's, PO's and PSO's are greater than 70% which is achieved/ Satisfied through alumni feedback of 2017-18. As per feedback calculation PO4 and PO7 are nearly short fall of 70% as compared to expected attainment level.

PO4 and PO7 stated regarding conduct investigation of complex problem and Environment & Sustainability which is all about research based knowledge, methods, understand the impact of engineering solutions in environmental context.

General suggestions provided by alumni are to conduct and practices aptitude test. Also alumni express their willingness to help department for in all respect.

Submitted by:

Alumni Survey Coordinator

DAAC Coordinator   **HOKD**

Annexure-4

Senior Student Exit Survey

Summary Sheet of Student's Exit Survey Year 2017-18 PO's Attained

Sr. No.	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
1	3	4	4	4	3	4	3	4	3	4	4	4	4	4
2	4	4	3	4	4	3	4	4	4	4	3	3	3	4
3	3	3	3	3	3	3	3	4	3	3	3	4	4	4
4	3	3	3	4	3	4	4	4	4	3	4	4	4	4
5	3	3	3	3	3	4	4	4	3	3	3	3	4	3
6	3	3	4	3	3	4	3	4	3	3	3	3	4	3
7	3	3	3	3	3	3	3	3	3	3	3	4	4	4
8	3	3	3	3	4	4	4	3	3	4	4	4	4	4
9	3	3	3	4	4	4	4	3	3	3	4	3	4	3
10	3	3	3	4	4	4	4	4	3	4	4	3	4	4
11	3	4	3	4	3	4	3	4	3	3	3	3	3	3
12	3	3	3	4	4	3	4	4	3	3	4	4	3	3
13	4	3	3	4	4	4	3	4	3	4	4	3	3	4
14	4	3	3	4	4	4	3	4	3	3	4	4	3	3
15	3	4	3	4	4	4	3	4	4	3	4	4	4	4
16	3	3	3	3	3	4	4	3	3	4	3	3	4	4
17	3	3	3	3	4	4	3	4	4	4	4	4	4	4
18	4	4	3	4	4	3	4	4	4	4	3	3	3	4
19	3	3	3	4	4	3	4	4	3	4	3	3	4	4
20	3	4	3	3	3	3	3	3	4	3	4	3	4	4
21	3	3	4	3	4	3	3	3	3	3	4	4	4	4
22	3	3	3	3	3	3	3	3	4	4	4	4	4	4
23	3	4	4	4	4	3	3	3	4	4	4	4	3	4
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25	3	4	3	3	4	4	3	3	3	3	4	4	4	4
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27	3	3	3	4	4	3	3	3	4	3	3	3	3	4·
28	3	3	4	3	3	4	4	3	3	4	3	3	3	4
29	3	4	4	4	3	4	3	3	3	3	4	4	4	3
30	4	4	3	3	4	4	4	3	3	3	4	3	4	4
31	3	4	4	3	4	3	4	4	3	4	4	3	4	4
32	3	4	4	3	4	3	4	3	3	3	4	4	3	4
33	3	4	3	4	4	3	3	4	3	4	4	3	3	4
34	3	4	3	4	4	3	3	4	3	4	4	3	3	4
35	3	4	3	4	4	3	3	4	3	4	4	3	3	4
36	3	4	3	4	4	3	3	4	3	4	4	3	3	4
37	3	4	3	4	4	3	3	4	3	4	4	4	3	4
38	3	4	3	4	4	3	3	4	4	4	3	4	4	4
39	3	3	3	4	4	3	3	3	4	3	3	3	4	4
40	3	3	3	4	4	4	4	4	3	3	3	4	4	4
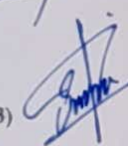
41	3	4	4	4	4	3	3	3	3	3	4	4	4	4
42	3	4	4	4	3	3	4	4	3	3	4	4	4	4
43	3	4	4	3	4	3	4	4	3	3	3	3	3	3
44	3	3	4	4	3	3	4	4	4	4	4	4	3	4
45	3	3	3	4	4	4	3	3	4	3	3	4	4	3
46	3	4	3	3	4	3	4	3	4	3	3	3	3	4
47	3	3	3	4	4	4	3	3	4	4	3	3	4	4
48	4	3	3	4	3	3	4	3	4	3	4	4	4	3
49	4	4	4	4	4	4	4	3	3	3	3	3	4	4
50	4	4	4	4	3	4	4	3	3	3	3	3	3	4
51	4	3	3	3	3	3	3	4	3	3	3	3	3	4
52	4	4	3	4	4	3	4	4	3	4	3	4	4	4
53	4	4	4	4	3	3	3	4	4	4	4	4	3	4
54	3	4	3	3	3	3	3	3	3	3	3	3	3	3
55	4	4	4	4	4	4	4	4	3	3	3	3	3	4
56	4	4	4	3	3	4	4	4	4	4	4	4	3	4
57	3	3	3	3	3	4	4	4	3	3	4	3	3	4
58	3	4	3	4	3	3	3	3	3	4	3	4	3	4
59	3	4	3	3	3	3	3	3	3	3	4	3	4	4
60	3	3	3	4	4	4	4	4	4	4	4	3	3	4
61	3	4	3	4	3	4	3	4	3	3	3	4	4	4
62	4	4	4	4	3	3	3	3	4	4	3	3	4	4
63	3	3	3	3	3	3	3	3	4	4	4	3	4	4
64	3	3	3	4	4	4	3	3	3	3	4	4	3	3
65	3	4	3	4	4	3	3	4	3	4	4	3	3	4
66	3	4	3	4	4	3	3	4	3	4	4	3	3	4
67	3	4	3	4	4	3	3	4	3	4	4	3	3	4
68	3	3	3	4	4	4	4	3	4	4	4	4	3	4
69	3	4	3	4	4	4	4	3	4	4	4	4	4	4
70	3	4	3	3	4	4	4	4	4	4	3	3	3	4
71	3	3	3	3	3	4	4	4	4	4	4	4	4	4
Total	227	251	233	259	256	246	245	252	240	249	254	245	250	272
%	79.93 %	88.38 %	82.04 %	91.20 %	90.14 %	86.62 %	86.27 %	88.73 %	84.51 %	87.68 %	89.44 %	86.27 %	88.03 %	95.77 %

Assessment Report:

Coordinator

Committee Members

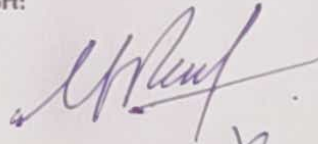1)　　　　3)　　　　5)

2)　　　　4)　　　　6)

HOD / Chairman

Annexure-5

Department of Computer Science & Engineering

Summary Sheet of Parents Meet Feedback Survey Year 2017-18 PO's Attained

Academic Year	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
2017-18 Even	87%	92%	85%	81%	83%	81%	90%	81%	85%	87%	85%	87%	85%	88%
2017-18 Odd	87%	92%	85%	81%	83%	81%	90%	81%	85%	87%	85%	87%	85%	88%
Average Assessment	76%	84%	81%	78%	80%	79%	83%	76%	79%	81%	82%	82%	81%	81%

Assessment Report:

Coordinator

Committee Members

1)   3)   5)

2)   4)   6)

HOD / Chairman