AISSMS
COLLEGE OF ENGINEERING
ज्ञानम् सकलजनहिताय
(Accredited by NAAC with grade A+)

ALL INDIA SHRI SHIVAJI MEMORIAL SOCIETY's
COLLEGE OF ENGINEERING, PUNE

PROCESS MANUAL
FOR

CURRICULAR PLANNING AND IMPLEMENTATION

INDEX

1. PREAMBLE

The All India Shri Shivaji Memorial Society's College of Engineering, Pune is a co-education Institute established in 1992. The College of Engineering is affiliated to the Savitribai Phule Pune University, Pune. It conducts AICTE approved courses leading to the degree of Bachelor of Engineering (BE) in eight engineering streams and Master of Engineering (ME) in seven engineering streams. Institute has highly qualified and experienced faculty on its roll. The laboratory, computer and library facilities in all Departments are well developed. The College also has a Central Library and Central Computing Facility. Institute gives substantial emphasis on the teaching learning process. An institute also provides unlimited broadband internet facility to the students. Besides national journals, international journals are made available to the students and the faculty. The teaching programme also gives emphasis on practical training and internships. The ICT facilities and other e-learning resources are adequately available in the institute for academic purposes.The institute has following vision and mission.

Vision:

Service to society through quality education

Mission:

- Generation of national wealth through education and research
- Imparting quality technical education at the cost affordable to all strata of the society
- Enhancing the quality of life through sustainable development
- Carrying out high quality intellectual work
- Achieving the distinction of highest preferred engineering college in the eyes of the stake holders

The vision and mission statements of the institute are communicated through parents' meet, student meetings, orientation of faculty and staff, department meetings with faculty and staff, Department Advisory Board (DAB) meetings etc. The vision and mission statements of the institute are displayed at prominent places. The planning and implementation of curriculum is carried out in most effective manner through a well planned and documented process.

2.CURRICULAR PLANNING

The Curriculum is prepared by the concern Board of Studies (BOS) consisting of experts fromthe Industry,academia, members of BOS etc. The curriculum is finally approved by the academic council of University and displayed on University website. At the beginning of each academic year the affiliating University gives academic calendar and guidelines about the dates of commencement of the semester, end of the semester, In-semester and End-semester examinations, Online examinations, Oral, Practical examinations, holidays etc.

Principal receives inputs through IQAC, Department Advisory Board (DAB) and Academic co-ordinators etc. Based on these inputs Principal, Head of the Department (HOD), Institute Academic Coordinator (IAC), GSA committee members, Head- Cultural activities discusses and prepares theacademic calendar for the college. These are documented by IAC.It is then distributed to all the departments. Each department prepares their Department Academic Calendar in consultation with Head of the Department.Principal held a common meeting with all teaching and non teaching staff before commencement of semester. Students are also made aware of commencement of semester through a common notice and also SMS sent through ERP system.

Head of the Department is to conduct a meeting with all staff before commencement of semester. The course allotment is done by Head of the Department and teaching plan of each course is prepared in line with department academic calendar by individual course teacher in ERP. The planning and implementation of curriculum is being monitored through Academic Monitoring Committee. This committee decides the role and responsibilities of Department Academic Coordinator (DAC), Guardian Faculty Member (GFM), Mentor, Subject Teacher etc.

2.1 ACADEMIC DEVELOPMENT AND MONITORING COMMITTEE (ADMC)

Vision of All India Shri Shivaji Memorial Society's College of Engineering is "Service to Society through Quality Education". In order to impart Quality technical education an Academic Development and Monitoring Committee (ADMC) is established at institute level to develop strategies, rules, regulations and policies for creating an environment conducive for teaching learning process and effective planning and implementation of curriculum. The ADMC is headed by Principal and comprises of Institute Academic Coordinator (IAC), Heads of all departments (HOD) supported by Program Assessment and Quality Improvement Committee (PAQIC), and Department Academic Coordinators (DAC). ADMC is responsible for planning and monitoring of overall academic operations, activities, procedures, functioning and maintaining all relevant documents and files in association with various committee/coordinators of the department. Based on the inputs received from Principal, Heads of the Department (HODs), and GSA committee members, In-charge of Extra

and Co-curricular activities an academic calendar for the college is prepared by institute academic coordinator and circulated to all the departments. Each department prepares their Department Academic Calendar in consultation with Head of the Department. Principal held a common meeting before commencement of the semester. Students are also made aware of commencement of term through a common notice/Emails/SMS/through ERP system. Thus AMDC striving to achieve institute vision through mission statement M2, M4 & M5.

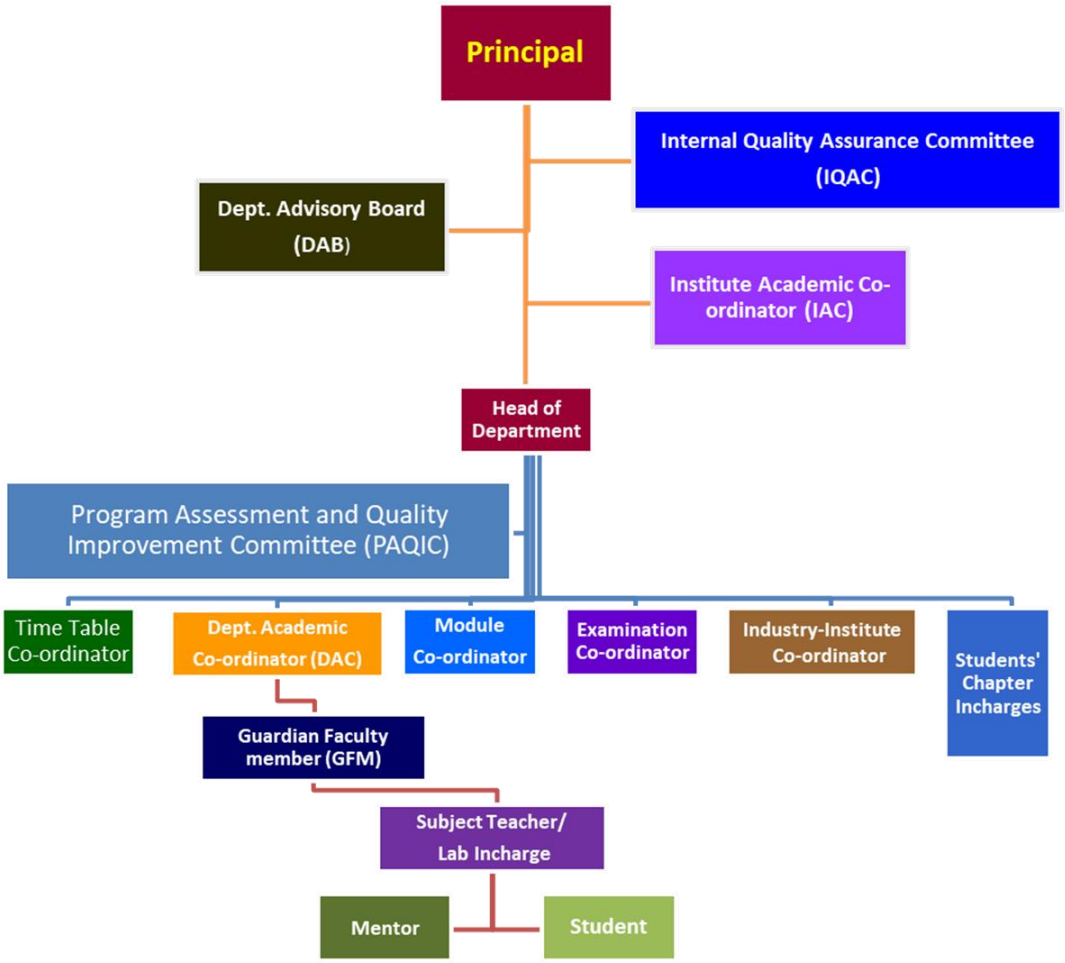

Figure 1. Organisation structure

Objectives:

1) Academic planning and implementation.
2) Imparting guidelines for upgrading innovative and creative teaching learning process, methodology, tools and techniques at periodic intervals by implementing advanced concept of pedagogy, ICT, learning management system, student centric methods, participative learning etc. for enhancing teaching and learning experience.

3) Conduct academic audit and suggest suitable methods for quality improvement and quality assurance.
4) To develop methodology for internal assessment.
5) To encourage students to participate activity based teaching learning, co-curricular activities and MOOCs for self-growth.
6) Planning of various co-curricular and extra-curricular activities.
7) Planning for Students Induction Programs.

Functions:

Functions Academic Development and monitoring committee:

1) Prepare Institute and Department Academic Calendar.
2) Ensure work load distribution, timely display of Time-Table, examination schedule, feedback schedule.
3) Monitoring of academic activities such as Preparation of teaching plan, Syllabus coverage, Students reporting at the beginning of semester, Student attendance, Faculty Feedback etc. through department academic coordinators and GFMs.
4) Notify to update academic related activities on ERP.
5) Mid-term academic reviews.
6) Finalize dates for annual events (e.g. Shivanjali, Ashwamedh, Engineering Today etc.)
7) Collect result analysis of all departments.
8) To notify regarding conduction of pre-requisite tests, Faculty feedback, Course end survey, Exit survey, Student satisfaction report, feedback on curriculum etc.
9) Ensure formulation of Program Assessment and Quality Improvement Committee at department level.
10) Frame policies regarding projects.
11) Participation in Academic Audits arranged by IQAC.

Standard Operating Procedure:

This committee work throughout the year as mentioned in Standard operating procedure. The functions Academic Development and monitoring committee are implemented following a standard operating procedure :

SN	Activity	Responsibility	Target days / dates
1	Preparation of Academic Calendar: Institute and Department	IAC & DAC	One week before commencement of Term
2	Elective Choices	HoD	
3	Load Distribution	HoD	
4	Preparation of Time Table	Time Table In-charge	
5	GFM and Mentor appointments	HoD	
6	GFM meeting	GFM	Fornightly
7	Planning and Conduction of Internal Examinations	Int. Exam Coordinator	As per academic calendar
8	Display of Defaulter List	GFM	Fortnightly
9	Students Feedback	GFM & Feedback I/c	Twice in a semester
10	Project Reviews	Project Coordinator	
11	Course End Surveys	Individual Teacher	Last week before term end
12	Graduate Exit Survey	DAC	Last week before term end of Final Year Students

List of forms and formats to be used:

Following formats are to be used as issued by Institute-Academic Coordinator time to time:

1) Academic calendar
2) Load distribution Format
3) Time-table Format
4) GFM meeting record Form
5) Continuous Assessment Sheets (CAS)
6) Internal examination question paper format
7) Assignment Format
8) Course-File Index
9) Graduate exit survey format
10) Course File verification Forms (Part-A and Part-B)
11) Personal File verification Forms.

2.1.1 ROLE OF INSTITUTE ACADEMIC COORDINATOR (IAC)

The Institute Academic Coordinator should responsible for following activities:

a. The Institute Academic Coordinator (IAC) in consultation with Principal and Heads of Department will form an Academic Monitoring Committee comprising of Heads of all departments (HOD) and Department Academic Coordinators (DAC).

b. The IAC will provide guidelines to department coordinators and collect information from departmental coordinators and convey it to the Principal for corrective measures, if required.

d. AMC will prepare Academic Calendar and submit the same to Principal for approval and same is to be forwarded to all the departments at least 15 days beforecommencement of semester. In consultation with Principal and the Heads of Departments, DAC should collect the following information for smooth conduction of academics.

i. Term start and end dates.

ii. Public Holidays.

iii. Dates for Mid Term Tests, End Term Test.

iv. Schedule of faculty feedback.

v. Schedule of Industrial Visits, Guest Lectures.

vi. Dates for annual events (e.g. Shivanjali, Ashwamedh, Engineering Today etc.)

vi. QIPs (short term courses, guest lectures, FDP, STTP, conferences, seminars) if any

ix. Term work submission dates

x. Guidelines for make-up-classes and remedial classes.

2.1.2 ROLE OF DEPARTMENT ACADEMIC COORDINATOR (DAC)

The Department Academic Coordinator should monitor:

a. Display of Class time table, timely distribution of individual time table.

b. Activities of Guardian faculty Member for smooth conduction of academics.

c. Students' Attendance monitoringthrough ERP.

d. Syllabus coverage monitoring through ERP.

e. Records of sending letters/SMS to the parents regarding their wards' performance.

f. GFMs' Records, Mentors' records.

g. Record of make-up classes.

h. Display of monthly attendance, defaulter list, unit test marks etc.

i. Collect departments' performance report and submit a comprehensive report to the

Head of Department and Principal.

J. To conduct GFMs' meeting or interaction with subject teachers (if required) and prepare minutes of meeting.

k. Various feedback like Turn-I (Mid Sem) & Turn II (End Sem) through ERP, Course end survey, Exit survey, student satisfaction report etc.b related to academics.

l. Executing Academic Audit for each semester.

m. Forwarding information about not reported, late reported faculties to lecture/practical if any to HOD/IAC/Principal for necessary action.

2.1.3 ROLE OF GUARDIAN FACULTY MEMBER (GFM)

a. Ensuring the Roll call list, batches, students' and their parents/ local guardians'data with address, mobile number, email ids etc. is in place.

b. Collection and maintenance of Theory and Practical Attendance Record (through ERP) from subject Teachers and to prepare defaulter students' list fortnightly.

c. Monitoring conduction of lectures and Practical regularly and making alternative arrangements in case of faculty is on leave and see that same must be recovered by subject teacher taking extra lectures if required. He will also inform the Head of Department about making substitute arrangement for lectures and practical when a faculty is on leave.

d. Displaying defaulters' list and prepare schedule for make-up classes.

e. Communicating internal examination time table and other academic activities to the students well in advance.

f. Preparing provisional and final detention list and displaying on notice board in consultation with DAC and HOD.

g. Monitoring the syllabus completion (Theory and Practical) fortnightly and submitting the report to Department Academic coordinator.

h. Collection of records of make-up classes.

j. Maintaining informal feedback from students (if any).

k. Conduction of subject teachers meeting on every Friday and keep record of it.

l. Monitoring late reporting student.

2.1.4 ROLE OF SUBJECT TEACHER

Subject Teachers will be responsible for all the academic aspects for

a. Preparing and maintaining course file, taking attendance for each lecture/practical.

b. Maintaining the daily attendance report and send SMS to the parents of absent students.

c. Providing subject notes, unit-wise question bank, assignments to students.

d. Periodic conduction of internal examinations, make-up classes, lectures for slow learners etc.

e. Updation of personal file.

g. Preparation of knowledge wall.

h. Contribution towards holistic development of the student.

j. Industrial Liaison, training and visits.

k. Development of teaching material, planning of lessons, setting up laboratories and experiment, unscheduled teaching activities such student counselling, setting and evaluating test papers, arranging and conducting tests, conduct of Local/University examinations, implementation of project for students, setting and evaluation.

l. Curriculum Development due to the ever expanding demand of knowledge and changing needs of the industry.

m. Student's activities as an adviser to student associations, co-curricular and extra-curricular activities.

n. Administration which may be departmental and or institutional as member/convener of some committee.

o. Professional activities i.e. involvement in professional and technical societies.

p. Continuing education activities (FDP/STTP/Seminars/Workshops/Expert Lectures etc.) both as an organizer and (or) as a participant.

2.1.5 OBJECTIVES AND ROLE OF A MENTOR COORDINATOR

Objectives of Mentoring

- To understand the students' needs and potential
- To personally help the students to improve upon in academics, soft skills, personal development etc.
- To guide the students to overcome the problems in academics and personality development.

- To enhance peer interaction.

Role of Mentor Co-ordinator:

a. Departmental Mentor coordinator should distribute the hard copy of required formats to the department mentors.

b. Departmental Mentor coordinator must maintain the list of the students and respective mentors.

c. Departmental Mentor coordinator must monitor the records of all department mentors on 2nd and 4th Friday of every month and report to the HOD.

d. Departmental Mentor coordinator must collect the records from all the mentors at the end of every semester and retain in the department with HOD.

e. Departmental Mentor coordinator must handover the mentor records of earlier semester to next mentors at the beginning of semester through HOD

f. Departmental Mentor coordinator should conduct the meeting once in the month within department and maintain the minutes.

g. Departmental Mentor coordinator will sign on telephone/Mobile bill of individual mentors before sending to office through HOD for claims.

2.1.6 ROLE OF A MENTOR

Roles and Responsibilities of Mentors

a. To collect the list of allotted students and formats for updating the students' records from HOD.

b. To collect the "student's Information" from the respective GFM.

c. To establish the contact with the parents through telephonic discussion, appraise them about the development of their ward.

d. Conduct meeting with students once in two week.

e. To act as a Counsellor, Guide and Philosopher of the student.

f. To encourage the student to have open dialogue.

g. To record the observations about the student viz. achievements, doubts, fears, grievances.

h. To evaluate the student's ability, strengths and weaknesses.

i. To help the students to over-come their weaknesses and strengthen the abilities to excel in his/her defined objectives.

j. To submit the files complete on all respect to Head of Department (HoD) at the end ofterm. Mentors can collect those files from HoD before the start of next academic Session.

k. Update students' information on ERP.

l. To report the weak cases to the Students' Counselling Cell, as well as those cases

Wherever special assistance is required, through HoD.

m. HOD/Department coordinator of First year engineering shall handover the Mentor Record to respective department HOD at the end of every academic Year.

n. To maintain utmost secrecy about the matters disclosed by the student during counseling.

o. To maintain the following records

i) Student Information

ii) Mentoring Record of students according to academic, Psychological, financial.

iii) Attendance of student about mentor meeting.

2.1.7 ROLE OF A LABORATORY INCHARGE

a. Dissemination of Vision, Mission statements into laboratory.

b. Maintain dead-stock register.

c. Preparation of laboratory manual.

d. Display of information related to Lab time-table, Total laboratory cost, List of major equipment, Lab area, Standard operating procedures (SOPs).

e. Display of Models, Charts, Slides etc.

f. To monitor condition of an equipment, to conduct preventive and predictive maintenance, calibration, annual maintenance contract of laboratory equipments.

g. Suggest new equipments to meet the need of teaching, erection/installation and commissioning of new equipment,Procurement of consumables etc. before the implementation of revised syllabus(if any).

h. Determine size of the batch, Number of sets, Demonstration kits etc. to be arranged.

i. Preparation of Continuous assessment sheet for batch allotted to you.

j. Preservation of sample Journal copy.

k. Conduct mock practical/ or oral examination for batch allotted to you.

l. Maintain laboratory utilisation register, equipment utilisation for specific work.

m. Maintain testing and consultancy (if any) records conducted in laboratory.

n. Periodic feedback from students about working of instruments and special need.

o. Make a laboratory budget.

n. Monitor laboratory safety and cleanliness.

3.0 PROCESS OF EFFECTIVE CURRICULAR IMPLEMENTATION:

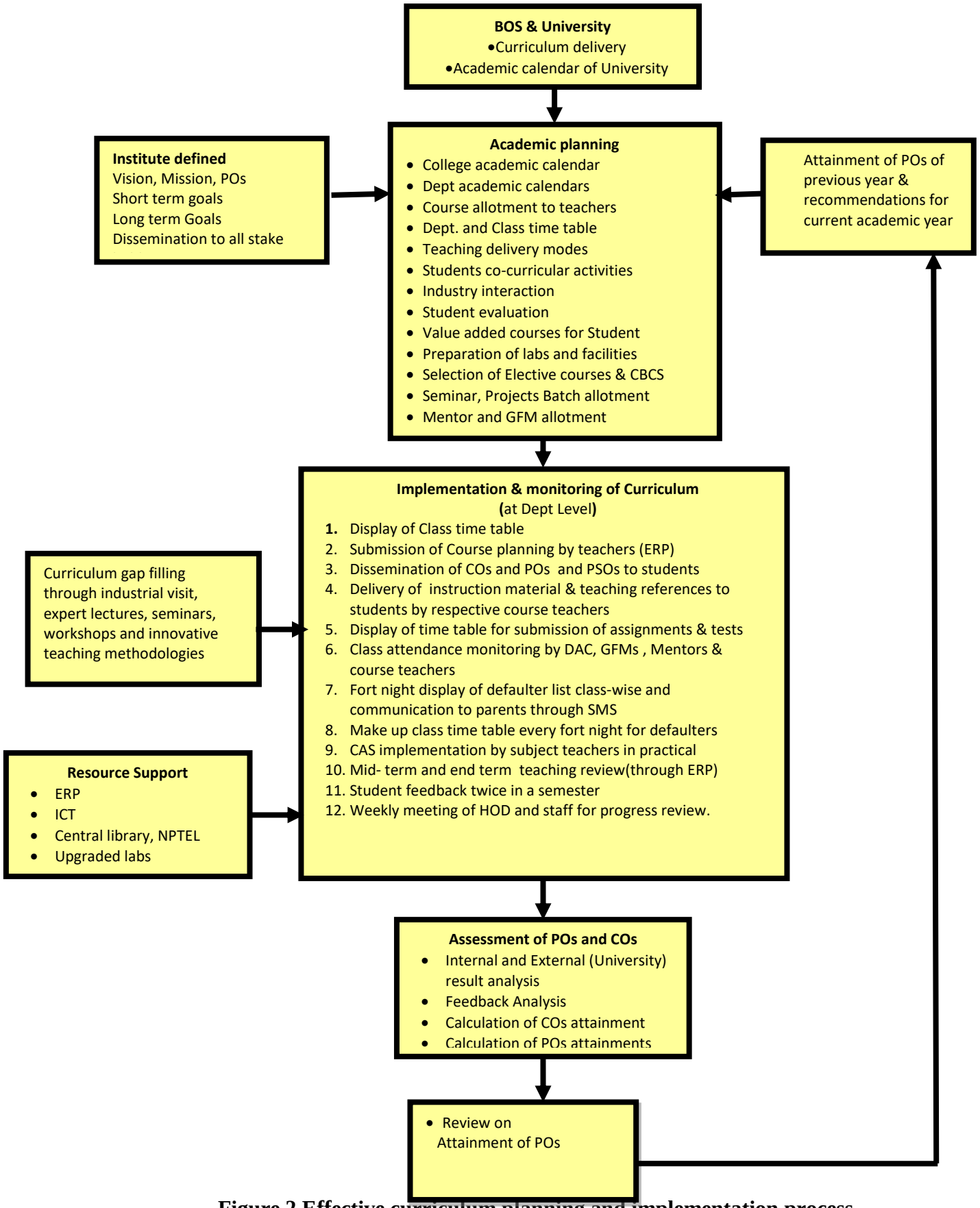

Figure 2 Effective curriculum planning and implementation process

The implementation of curricular is carried through a systematic procedure as shown in the flow chart (Fig. 2) and explains in detail as:

3.1 Preparation of Teaching Plan

University prescribes the syllabus which specifies the number of lectures, list of recommended books and assessment scheme of internal and external marks. HOD distributes the teaching load by considering the subject choice form filled by the faculty members. In order to have smooth conduct of curriculum, HOD allocates the load according to faculty competency. The activity is carried out immediately after the end of the previous semester so that faculty members get sufficient time for the preparation of the subject assigned to them for the next semester. Every faculty member prepares a teaching plan of entire semester in-line with the department's academic calendar. To prepare and maintain documentation, the institute provides the facility of Enterprise Resource Planning (ERP) system. Detailed unit-wise and date-wise plan is prepared by individual faculty using ERP.

Schedule of Internal (Mid Term & End Term), Online, In semester, external examinations are displayed time to time. Training, induction, guidance is imparted to newly joined faculty for building and maintaining academic culture in the college. An induction programme is conducted for First Year Engineering students before start of semester. Imparting guidelines for upgrading innovative and creative teaching learning process, methodology, tools and techniques at periodic intervals by implementing advanced concept of pedagogy, ICT, learning management system, student centric methods, participative learning etc. for enhancing teaching and learning experience. Figure 2 shows the process of effective curriculum planning and implementation.

3.2 Curriculum Delivery

The effective implementation of curriculum is ensured by supplementing classroom teaching with expert lectures, presentations/seminars, mini projects, in-house and industry supported projects, tutorials, group assignments, tutorials, case studies, industry visits, industrial training, internships, hands-in-sessions, e-learning, NPTEL lectures, MOODLE, knowledge wall, technical quiz, assignments, internal-tests etc. As shown below.

Training needs of faculty are identified by the head of the department. Faculty is encouraged to attend short term training programs (STTPs), faculty development programs (FDPs), Seminars, Workshops, Industry Training etc. to bridge the need.

Contents beyond curriculum are identified and taught both in the classroom and in the laboratory to expose student learning to recent trends in the industry.

Figure 3 Effective course deliveries

3.3 Academic Monitoring Process

Academic coordinator, HOD and GFM monitors the progress of syllabus coverage every fortnight through ERP. The number of lectures planned and the number of lectures actually conducted facilitates identification of gaps, if any, and necessary corrective actions are taken for filling the gap.

Following activities related to academic monitoring are carried out through ERP:

- Preparation of Timetable: Class wise, Laboratory-wise, Classroom-wise, Individual,
- Preparation of Teaching Plan
- Attendance Monitoring: (Subject-wise, Class-wise, Percentage-wise)
- Syllabus coverage Monitoring
- Students feedback
- Communication to parents through SMS.

3.4 Process to indentify slow learners

The students are traced during their academic journey in the college and special efforts are made to bring slow learners (students with certain limitations) to come at par with the average/above average group. Students with good background and skills are guided to higher levels of achievements and encouraged towards challenging goals.

The FE learning level data is shared by the team of first year Guardian Faculty Members(GFM) and Mentors, pre-requsite tests and previous semester results to evaluate the student learning level as advanced learner or slow learner. The GFM/Mentors, in weekly meetings with all faculties of respective classes, carry out discussion based on analysis records available about students' levels, abilities, characteristics, skills, attitudes, examination results (internal and external) and their current day to day interactions/experiences. Based on this evaluation, feedback is given to students and special programs/activities are undertaken.

This data analysis done at entry stage is referred by GFM's/Mentors of FE classes and also passed subsequently to GFM's/Mentors of next classes. The GFM's and Mentors of second year onwards carry forward the FE activities at individual departments.Students attendance is also being monitored through ERP software on every week and list of defaulter students are displayed on department notice board. Attendance of students is regularly being informed to the parents through SMS facility. College had made special provision of exhaustive soft skill training and exclusive counselling, to mould the slow and advanced learners to plan their careers and placements. Through this process slow learner are identified and following activities are carried out for them.

Activities for Slow learners:

- Tutorial
- Special Notes
- Question bank
- Extra lectures
- Extra Practical sessions
- Re- test for improvement
- Personal Attention in teaching
- Remedial and Make-up classes
- Mock oral/practical examination
- Counselling – special hints and techniques
- Guidance for Seminar/Project presentation

- Assignments and Solving university question papers

3.5 Encouragement to Advance Learners

In order to promote advanced teaching and learning methodologies to give motivation to learn, higher retention of knowledge through better understanding, increasing depth of knowledge and developing positive attitude to the subject taught following activities to be planned.

a) Advance learning: We adopt active learning by involving students in the learning process more directly through following activities;

- Activities on technical content of syllabus like brain storming, quiz, debate, group discussions, role play, games, model making, mini project, presentations, essay, elocutions, case studies
- Use of animation software, V-LAB
- Active learning experiences through hands on training.
- Challenging students to take up open ended problems requiring critical/creative thinking through active participation in state and national and international level competitions such as BAJA, SUPRA, EFFI-CYCLE, GO-CART, AVISHKAR, AERO-DESIGN etc.
- Use of team based learning and participative learning to do some short term projects.
- Brief demonstration, case studies etc.

b) Collaborative Learning: We implement collaborative learning by forming student teams working together to solve a problem, complete a task, or design a product. Team works are done in activities like group projects, joint problem solving, debates etc.

c) Inquiry-based Learning: We make our classrooms as open systems where students are encouraged to search and make use of resources beyond the classroom for investigation of open questions/problems, developing their critical thinking and increasing understanding levels by performing review of research papers, Surveys etc.

d) Cooperative Learning: Focusing on cooperative learning methodologies by distributing the tasks to small group. Students work together to maximize their own and each other's learning in IE student chapter study circle and while performing various activities using think-pair-share, round table and one minute paper technique.

e) Project based Learning: We assign students different tasks, assignments, portfolios, activities in which students engage in complex, challenging problems and collaboratively work toward their resolution by using inter-disciplinary knowledge to solve problems. Example BAHA, Garudashwa projects.

f) Peer Led Team Learning: We provide an environment for students to engage in intellectual discussions and work in problem-solving teams under the guidance of a peer leader to perform activities like designing and developing software for different competitions in our technical fest.

g) Just-in Time learning: For some subjects, we are making our students to do a pre-class activity, submit responses to this activity and then we use these responses to tailor class to the specific needs of the students.

h)Experiential learning: We are adding field based experiences, Internship, practicum, cooperative education, service learning and class based experiential learning by conducting activities like role plays, games, case studies, simulation, virtual lab, presentations and various types of group work.

i) Project based learning: The mandatory BE project is converted to a learning platform by using various tools of project management, solving real time challenges and giving the satisfaction of achieving the goal at the end of completing the project.

Activities to be carried out for Advanced learners :

- Encouragement to complete NPTEL certification courses
- Participation in incubation centre as Organic BOT
- Induction in Clubs like Robotics, Drone etc.
- Implementation of research papers
- Participation in Seminars and Conferences
- Motivational guest talks
- Paper publication and presentation
- Workshop and seminar on current trends
- Model making/building
- Motivation and Guidance for higher studies (GRE, GATE, competitive exams)
- Industry visits and Industry sponsored/research project
- Patent filing process
- In house Mini-projects (over and above the syllabus)
- Project competition like NDRF, AVISHKAR, BAHA, SUPRA, GO-CART, ET
- Encourage students to participate in professional body activities and memberships such as, Institution of Engineers IE(I), Indian Institute of Chemical Engineers (IIChE), American Institute of Chemical Engineers (AIChE), SESI, SAE, ISTE, CSI, ISHRAE, TRIZ association of Asia activities, Indian Concrete Institute (ICI) etc.

3.6 Feedback Process

Student's feedback about teaching a course is collected for all courses twice in a semester through the ERP system.

Frequency of Feedback: Per Semester Mid Term and End Term.

Mid Term feedback is taken after the first 30 to 40 days of teaching. Corrective actions are taken after this feedback. End Term feedback is taken at the end of the semester.

The following questionnaire is set for feedback.

1. Has the teacher covered the entire syllabus as prescribed by university, college, board?
2. Has the teacher covered relevant topics beyond syllabus?
3. Pace on which contents were covered.
4. Motivation and inspiration for students to learn.
5. Clarity of expectations of students.
6. Feedback provided on students' progress
7. Effectiveness of teachers in terms of technical e-course content, communication skills and teaching aids
8. Support for the development of student's skill practical demonstration torogh V-Lab, Video demonstration, You-tube videos
9. Support from teacher during pandemic for addressing student's issue.

A rubric is followed to access the syllabus covered by the faculty, pace of teaching, topic covered etc.is shared with students through ERP for evaluation of the faculty. Each question is assessed on a 5 to 1 scale. (5- Excellent, 4- Very Good, 3- Good, 2- Satisfactory and 1- Non-satisfactory). At the end of the feedback collection process, reports are generated in ERP showing a performance index. The method of obtaining feedback performance index is as follows.

Let total N students in a class participate in the feedback process and n_1, n_2, n_3, n_4 and n_5 be the number of students giving feedback as Excellent, Very Good, Good, Satisfactory and Non-satisfactory, respectively. Each question in the questionnaire is assessed on a 5 to 1 scale (5- Excellent, 4- Very Good, 3- Good, 2- Satisfactory and 1- Non-satisfactory). The method of obtaining feedback performance index is as follows.

$$N = n_1 + n_2 + n_3 + n_4 + n_5$$

Total marks obtained for a question = $5 \times n_1 + 4 \times n_2 + 3 \times n_3 + 2 \times n_4 + 1 \times n_5$

Maximum marks = $5 \times N$

Feedback obtained = (Total marks obtained for a question/ Maximum marks) X 100%

The procedure is repeated to get feedback obtained for all questions in the questionnaire. The performance index is simply an average of the percentage feedback thus obtained. This index is mentioned in the feedback report.

Faculty are provided with letters of appreciation or improvement based on performance index. This index is used for measuring the quality of teaching & learning. For the performance index of 75 and more, appreciation letters are issued by the Head of the Department. For a lower index, the Head of the Department issues improvement

Reward / Corrective measures:

1. Faculty members, with more than 75% feedback, were motivated to continue their hard work and explore the scope of further improvement.
2. Faculty members with less than 75% feedback were asked to discuss any kind of problem or issue being faced by them in subject content, preparation and delivery of lecture. They were motivated to attend faculty development programs in order to improve modes of teaching. They were also advised to go through video lectures available online.

3.7 Evaluation Process

Internal assessment is carried out through internal calss tests, assignments, course activity etc. University examination is conducted as per schedule prescribed by the university and termed as external assessment. As per revised 2019 course insemester examination is carried out on first two units and end semester examination on last 4 units. External Assessment (University examination) and internal assessment tools are used for mapping of CO-PO-PSO.

Assessment Tools

a. Direct Assessment Tools: Continuous Assessment, Class tests, retest, In-sem Examination and End Sem- examination (University).

b. Rubrics: A Rubric explains to students the criteria against which their work will be judged with "scoring rules". This criterion helps the students in developing, revising, and judging their own work.

c. Indirect Assessment Tools

Programme level statistics: At the end of semester the statistics of students who have participated in professional bodies/studentchapters/workshops/seminars/conferences/paper presentations/internships/industry visit etc. are prepared. This is considered to indirectly assess the PO's.

Survey reports: Indirect assessment strategies may be easily implemented by conducting the Course End Survey, Graduate Exit Survey, Alumni Survey and Employer

3.8. In-put for curriculum development

Each course has defined COs that are mapped to the PO's. The POs are achieved through a curriculum that offers a number of core courses as well as elective courses. A set of performance criteria is used to provide quantitative measure of how well the COs are achieved. The mapping of COs with POs and PSOs of the program are considered by the individual staff and feedbacks from stake holders such as, students, alumni, parents, industry, teachers to give input in framing the syllabus which will be communicated to Board of Studies (BOS) members to modify in the syllabusthrough faculty participating in various syllabus design and implementation work-shops and separately through E-mail. The suggestions given by individual staff are incorporated by BOS for curriculum enrichment.

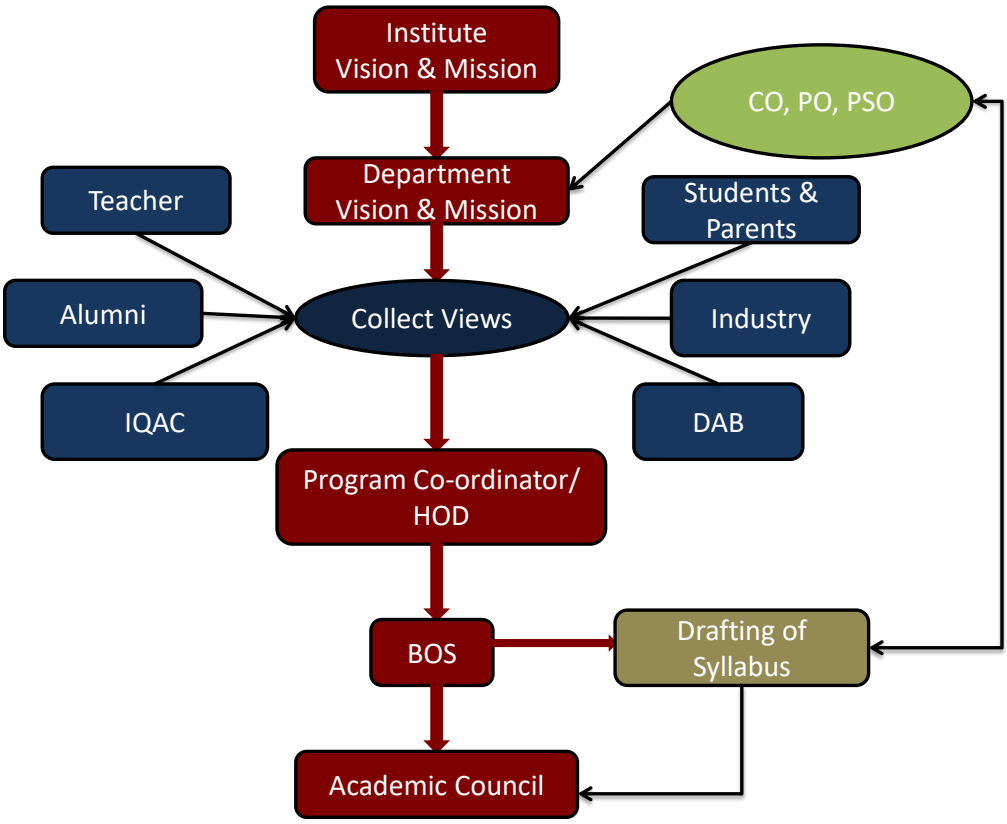

Figure 4 curriculum development

4.0 Service activities

For holistic development of student, institute conductservice activities and following administrative setup is put in place to ensure the achievement of POsand PSOs

- Gymkhana Cell
- Alumni Association
- National Social Service (NSS)
- Guidance and Counselling
- Industry-Institute-Interaction
- Entrepreneurship Development Cell
- Institution Magazine, Bulletins, Newsletters etc
- Annual Day Celebrations and cultural activities
- Centre for Information, Training and Placement (CITP)
- Student Chapters of Professional Bodies and Students' Associations

4.1Centre for Information, Training and Placement (CITP)

AISSMS COE has an excellent and fully functional Centre for Information, Training and Placement (CITP) with adequate infrastructure comprising of Seminar Hall, Discussion rooms and Interview Rooms. The CITP is equipped with computers with internet facility.The CITP co-ordinator maintains a database of all the registered students with all relevant detailsand information of companies visiting the campus.A large number of companies visit the campus every year and recruit eligible students fromthe campus.The number of students placed through campus recruitment activity is increasing every year.The CITP at AISSMS COE is assisted by faculty coordinators by each department.Institute had the distinction of being visited by core companies specific to each domain as well as interdisciplinary area.

Figure 5 Centre for Training Information and Placement

As part of the training activity, institute has focused on training for Aptitude, Technical Tests, Group Discussions, Interviewing techniques, Psychometric tests, soft skills held through external agencies. These are imparted to all pre-final and final year students who register with

CITP. The Placement Officer regularly contacts many IT-related and manufacturing organizations and forwards details of eligible students to the Industry as and when needed. Interactive sessions with the students of final year who have been selected by the companies are frequently arranged. In this session students narrate their experiences during the interview process. They give facts/necessary information that would add on students' preparation. Industry visits are arranged frequently as a part of career initiative.

4.2 Counselling for Higher Education

The various programmes were organized for providing information to students about opportunities for higher education such as Expert Lecture on "Education & Career Opportunity in foreign Universities".

4.3 Industry Institute Interaction

CITP helps department to organize Internship to students. It provides an opportunity for the students to take up Internships at reputed industries and academic institutions in India. Institute has been interacting closely with industry through the CITP. Also Institute started one faculty-one industry drive under which various activities are being performed.

4.4 Co-curricular and Extra-Curricular Activities Institute

"AISSMS Engineering Today" - Every Year, the institute organizes technical competitions and symposia. These events provide students opportunity to prepare technical papers, Quiz, Model Making, Robo-race, Science exhibition. Students also involve as volunteers in the organization of such events.

AISSMSCOE Conducts a state-level cultural event **"Shivanjali"**, **"Ashwamedh**" and**"Shahu Trophy"**every year. The Students of various colleges throughout the state participate in these events.AISSMS COE students actively participate and are winning prizes continuously in cultural andliterary events organized by other colleges of the state. These events are held to promote overall personality development of the students.

AISSMS COLLEGE OF ENGINEERING PUNE-1

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