

# Electrical Engineering Department

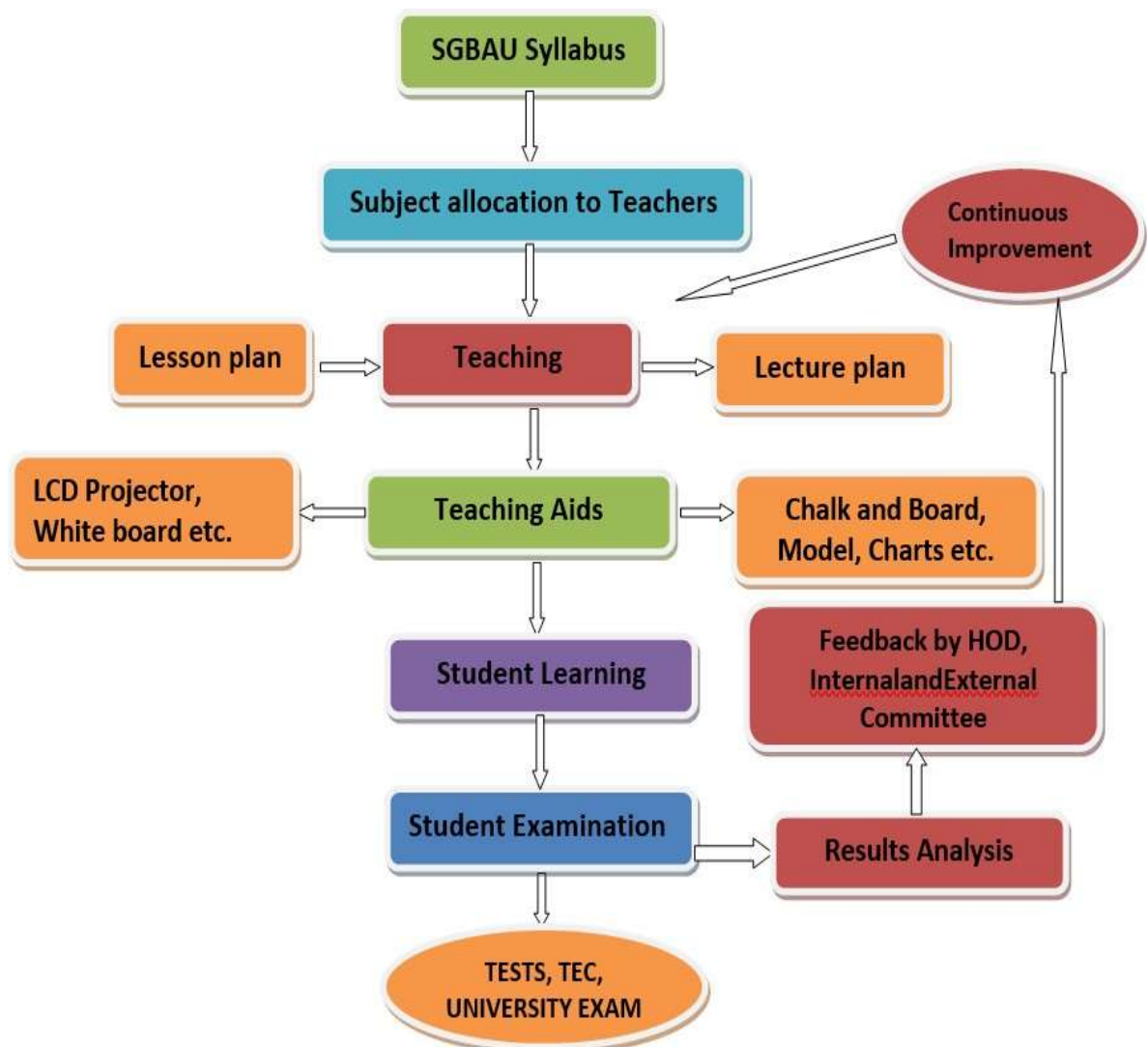
## Mandatory Disclosure for the session 2023-24

### 1. Teaching -Learning Process

Teaching Learning process is the most powerful instrument of education to bring about desired changes in the student. It is a backbone of our institute. It consists of four basic elements

- 1) Planning
- 2) Implementation
- 3) Assessment
- 4) Evaluation

Institute follows OBE (outcome-based education) to develop requisite knowledge, skill and attitude of students.



## **Use of various Instructional methods and Pedagogical initiatives:**

### **Lecturing with Interactive learning:**

Faculty not only uses chalk and board but also audio-visual aids while teaching. Students are encouraged to interact in the class to clear their doubts.

### **Collaborative Learning:**

Collaborative learning is an educational approach that involves group of learners working together to solve a problem, complete a task or create a product. Students are motivated to undergo mini-project in a team. In this case, student centric workshops are arranged and they are encouraged to undergo internships to learn new technologies and industry requirements in collaboration with industry persons. Various competitions and project expos are conducted through platforms like EESA, ISTE, IEEE, to provide exposure to the students.

### **Information and Communication Technology supported Learning:**

ICT can provide access to different sources of information. It provides correct information in different formats with different examples.

Classroom teaching is augmented by innovative practices that encourage usages of NPTEL, MOOCs, Computer based tutorial and virtual labs for advance learning.

### **Moodle:**

Moodle is an open-source virtual learning environment which has been developed for educators. It provides a private and secure learning space for designing online courses with flexible content and collaborative activities for students. Moodle provides a highly effective solution to support both individual and classroom-based learning.

### **Salient Features of Moodle**

- **Easy access.** It is available anywhere with the Internet connection. Students, staff and parents have 24-hours access to a huge variety of resources, activities and college information. Moodle can assist in accessing homework materials, assignments or additional learning resources that teachers upload.
- **Encourages collaboration.** Opportunity to collaborate with other students and to work in teams makes learning more effective. Moodle allows Students to ask questions and to help each other regarding any topic of discussion forums or via instant messages. Students who are hesitant to put forward their views or opinions in the classroom can use Moodle to express themselves and to get involved in different activities or projects.
- **Helps to make learning more fun and engaging.** Moodle can be used to upload assignment related quizzes or games that can help students prepare for their assignments while being fun and helping to reduce stress related to assignments. Engaging and fun activities can be used to support teaching in the classroom and to support students at home.
- **Enables students to learn more independently.** While Moodle encourages collaboration between students, it also enables them to have more control over their learning. For instance, teachers can upload supplementary activities, documents, links of websites or other relevant materials that are relevant to the lesson being taught. This helps students enhance their learning at their own time without having to do research for quality materials themselves.

- **Flexible.** Moodle is highly configurable and it can be customized with different features to meet individual needs of college.
- **Access to quality resources.** Moodle can help students to access only quality resources that are uploaded by teachers.

### Project Based Learning:

PBL starts with a problem and requires the students to analyze and apply information and theory learnt, to solve it. Students work in a group to solve or managed the assigned work. In this regard, real time projects are given to students and guided by faculty and industry person.

### Self-Learning:

Self-learning facilities provided by institute are:

- **Wi-Fi facility** is available which can be accessed anywhere in the campus.
- **Computer lab** with internet facility is available at the department.
- **Project Lab** equipped with modern equipment and software functioning 12 hrs /day is available for students to carry out their project work.
- **Central Library** with an excellent collection of books, Journals, Technical magazines, Newspaper is available to students, functioning 12hours/day.
- Department provides **NPTEL online courses** to the students and encourages them to carry out such courses.
- Department promotes to use the **virtual Labs** for the experimental work/ simulations.
- **Digital library** provides IP enabled access to large number of online journals.
- Language lab with computers is provided for learning English language and communication skill.
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Central Library



Departmental Library

### Co-curricular Activities:

#### Guest Lectures/Seminars

Institute provides much needed exposure to the students in the form of guest lectures and seminars. These things open up various doors for the students. They are forced to think outside their books and think of different possibilities and various perspectives on same topic.

SSGMCE invites experts from industry to conduct guest lectures, seminars and workshops on various topics and issues related to curriculum. Till now many delegates have graced the college with their presence. Students get to interact and learn from experts in engineering

fields, some of these experts are Dr. D. P. Kothari (In-charge Director, IIT Delhi), Dr. M.K. Khedkar (Head, EED, VNIT Nagpur), Mr. Uday Sampat (VP, ABB Ltd, Nashik), Mr. A.G. Patil (Executive Engr, MSETCL, Nagpur), Mr. S.S. Pawar (Executive Engineer, IREEN Nashik), Mr. A. Y. Mehendale (Certified Energy Auditor Pune) etc.

Guest lectures and seminars not only help students gain valuable knowledge beyond the curriculum, but also give them industry insight.



Expert lecture by Mr. A. G. Patil



Expert lecture by Mr. Mehendale (Energy Auditor)

### **Workshops/ training Programs:**

Institute provides much needed exposure to the students by organizing various training programs, workshops on advanced tools used in industrial practices or on emerging areas in engineering & technology.

These things open up various doors for the students. They are forced to learn outside their curriculum and think of different areas.

Such workshops or training program either conducted by internal faculty or from invited experts from industry/organization.

Till date many training programs are organized for student such as “Industrial Automation”, Application of MATLAB in Electrical Engineering”, “CAD-Electrical” etc.

### **Quality of class room teaching**

At the beginning of the semester, faculty prepares lesson plans for his/her course along with an action plan. Lesson plan focuses on course objectives and course outcomes along with syllabus and details of scheduled lectures. Action plan includes the details of all assignment components opted by the students with execution and evaluation methodology.

Faculty prepares a detail lecture plan for each lecture. Lecture plan outlines the topic to be taught on a particular day, covering all the classroom activities to be carried out during one hour lecture.

Faculty engages the students in classroom by following innovative teaching practices and implements active learning techniques and guides students to become an active learner.

## **Teaching Process**

### **Maintenance of Course File**

All faculty members maintain the course file for every course which they taught for every academic session.

### **Adherence to Academic calendar**

Departmental Academic Planner and Calendar is prepared which is aligned with university & Institute's academic calendar. It includes many other events which are useful in overall development of students. For ex soft skill development programme, Training and placement activities, technical skill development programme, ED cell programme are the part of planner and calendar. Dates are fixed for the internal assessment tests, guest lectures, industrial visits, seminars, Project Progress Monitoring, Technical events etc.

### **Academic Action Plan**

All faculty members submit the academic action plan at the beginning of every semester which include submission schedule for lesson plan, class test marks, Assignment marks, portion for class test, Number of lectures scheduled for the course, types of assignment, its conduction & evaluation methodology etc. Sample academic action plan is given below.

### **Lesson Plan**

Lesson plans are prepared for each course by faculty. The entire syllabus is divided into six units as per teaching scheme prescribed by university. Course objectives and course outcomes are defined for each course in line with PO's. It also includes text books, reference books and URL of corresponding courseware.

### **Lecture Plan**

One hour lecture plan is prepared by each faculty before the delivery of lecture. It gives details about the classroom activities planned in one hour lecture. It includes learning aid/ methodology used by the faculty to analyze the skills inculcated amongst students. The lecture delivery by the faculty is through set of educational tools such as chalk and board, PPTs, usage of charts and demonstration. Class room teaching involves student participation in the process through quizzes, recap on previous lecture by students, Role play, mind map techniques, case study presentation, game/activity etc.

Following is the list of some pedagogical initiatives taken by the department.

### **Conduction of Laboratory experiments:**

Institute is affiliated to S.G.B.A.U. Along with regular prescribed experiments, department adds new experiments.

Master lab manual and sample copies of student's lab manual are maintained in each Lab.

## **CODE OF CONDUCT FOR PRACTICAL CONDUCTION & EVALUATION**

- Roll list as received from the authority
- List of experiments having Eight to Ten practical's based on syllabus (One new experiment should be added, if possible).
- List of experiments as per ISO format to be displayed(Form 32A)
- The serial number of experiment in students journal(index) should be as per list provided
- Marks division: TWENTY marks based on continuous evaluation of all experiments and for FIVE MARKS lab test will be conducted.
- Marks of Continuous evaluation are allotted according to the rubrics provided by authority.
- No extra term will be given for unofficial holiday. Students will be marked absent for that experiment.
- Lab test: Just after certification of complete term work, lab test will be conducted, in regular term only
- Each batch will have sub groups depending upon the number of experiments to be performed in the cycle.
- Very first experiment to be performed will be announced during introductory term. Next experiments to be performed in cyclic order.
- Before coming to the lab each group should be thoroughly prepared for the experiment to be performed. Concern staff will ask pre-experiment question.
- Each group member will try to complete the results of the experiment on that term and get it certified. Post experimental questions will be asked during certification.
  
- INDEX and CERTIFICATE will be signed on the last terms of experiments Any sort of desired help expected by the students will be extended from concerned staff member.
- One may expect the following outcomes from the lab
- Sound practical knowledge supporting the theory.
- As we are working in groups, it is an opportunity for our personality development like:
  - Team work
  - Group discussion
  - Communication
  - Innovation
  - Leadership
  - After passing this lab you are well confident about yourself



(Dr. S. R. Paraskar)

Head, Electrical Engineering Department