



# Swami Keshvanand Institute of Technology, Management & Gramothan

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Affiliated to Rajasthan Technical University, Kota

## IQAC Report on Teaching Learning

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**IQAC Coordinator Report for Improvement in Teaching & Learning Process-**

**1. Curb mass copying in the submission of laboratory records**

- Provide clear guidelines for completing laboratory records. Clearly communicate the consequences of mass copying, such as reduced grades or other academic penalties.
- Regular evaluation of the file work and if some plagiarism is found then concerned faculty members may warn students about his/her disqualification from file submission process. This must be reflected in his/her final marks. Plagiarism can be detected based on personal evaluation of the student during file checking. Master-slave concept can be incorporated where if multiple files with similar pattern are found then only the first file will be considered original and remaining ones are plagiarized.
- Students need to work in their own workspace. Workspace must be created before starting the classes. For all computer labs, a workspace should be created on the college intranet.
- Every group in the lab must be assigned a unique problem which is not part of the RTU syllabus but directly maps with the lab objectives. Students must be asked to come up with the solution to the problem and present their solution in front of other students. This will improve their understanding as well as communication and presentation skills.
- In particular for CS/IT, all experiments must be rewritten in compliance with the software development life cycle (SDLC). For example, in solving an experiment CS/IT students are required first to write algorithms with emphasis on time and space complexity, then visualization through flowchart/UML diagram, code and then testing.
- No internet services in labs. Mobile data service shouldn't be allowed.

**2. Curb mass copying in the submission of assignments**

Following are some solutions for the assignment submission problem:

- Assignment shouldn't be in the pattern of university examination pattern. Assignment must be case/story based.
- Giving assignments well in advance with a suitable time frame.
- Using a server-based tool(may be through Open source GIT Repository) for assignment submission. Students will have login credentials, where they can submit assignments once or gradually with the save option.
- Tool must be equipped with features such as on the spot plagiarism generation, disabling other applications in background, no copy paste allowed, etc. for genuine submissions.
- IIT Bombay uses SAFE tool for assessment related activities. In addition, tools such as zerogpt can be used to detect AI based plagiarism.
- Assignment case studies should be chapter wise
- Assignment must identified before starting the units/chapters

### **3. How to improve percentage of students passing examinations without backlogs**

- It is very important to have the feedback of students during the semester, not at the end of the semester. If during the running semester, students are getting difficulty in certain topics then extra classes on those topics may be arranged.
- Special lectures covering those topics may also be recorded in the studios available in the institute.
- As per the discussion in point 2 improve the level of question bank and maintain the level of class test and on line quizzes as per the RTU exam.
- Effective implementation of the concept of flipped classroom teaching and utilizing the feedback from the flipped classroom for enhancing the learning of weaker students through proper monitoring of those students.
- Encourage teachers to engage students through discussions, group activities, and practical examples to enhance understanding.

### **4. How to improve the level of projects?**

- Create a project bank from the feedback of faculty members of the Department, experts from the industry and academicians from reputed institutions.
- Ensure that the students have access to the necessary resources, such as laboratories, software, equipment, and research materials. Lack of resources should not limit the quality of projects.
- Making different project-faculty kits (Project kit, Faculty kit, Student kits) based on different technologies from where students can choose technology and related projects of their choice.
- Regular monitoring of the progress with sincere implementation of penalty provision in case of noncompliance of the work.
- Provision of some benefits (marks or any other) to the students converging their project into prototype or a product.
- Encourage students to explore interdisciplinary projects that combine concepts from different engineering fields, and emphasize on the importance of projects that address real-world challenges or industry needs.
- Project monitoring and version control system should be managed through cloud platforms e.g. Gira, Jenkins, Github, Gitlab

### **5. How to improve the level of lab experiments?**

- There must be Lab kit, Faculty cum Experiment kit, and Students kit while defining roles and responsibilities of individuals
- Experiments should be designed that require critical thinking, creativity, and individual input. Align lab experiments with real-world applications and case studies.
- Mixing the RTU syllabus with some additional complex experimental problems which are more relevant in context of the current industry requirements, or which are more helpful for students to have a deeper understanding of the subject.
- Providing state of art simulation environment facilities like GPU in HD image processing or machine learning.
- After completing an experiment, analyze the results and identify areas for improvement. Use feedback and lessons learned to refine your experimental design for future iterations.

**Appendix-IV**

**ASSIGNMENT**

Assignment is a metric used to assess a student's analytical and problem solving abilities. Every student is assigned with course related tasks & assessments to do self-evaluation of their understanding of the courses.

**Guidelines for Assignment**

- There must be at least two assignments for each of the course.
- The assignment should contain a sufficient number of questions (at least 2 questions) corresponding to each course outcome (COs).
- Questions must be in tune with higher Bloom's Taxonomy level (at least L3 level). Assignment of higher level in Engineering courses should be based on solving complex engineering problem and encourage students to complete their assignment by making use of relevant materials available in the library. While framing such assignment the faculty must provide relevant references to the students in advance. For the courses related to Humanities or Basic core engineering, the assignment should be prepared in such a way that students can reflect the knowledge of written communication skill in the form of self-explanatory labeled diagram or flow chart.
- Proper mapping of each question should be done with Blooms level and course outcomes.
- The assignment should be verified by the course coordinator before being notified to students.
- The assignment should be notified to students at the beginning of the course. Enough time should be given to students to solve the assignment problems.
- Assignment should be prepared with different set of questions for different group of students (maximum 5 students in a group). Some questions may be common for different sets but at least one question corresponding to each course outcome should be unique in each set of the assignment.  
The following points should be noted for the unique questions:
  - (a) Wherever possible, give the case study in the assignment.
  - (b) Question should be based on to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
  - (c) Question should be based on the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- The assignment should be evaluated and submitted at least one week before the commencement of Mid Term examination. On the basis of evaluation, the attainment level of course outcomes should be evaluated.
- If attainment is not found satisfactory, find out which level of Bloom's Taxonomy are not attained by students. Corrective measures should be taken in terms of holding extra classes/tutorial classes etc.