Format for Presentation of Best Practices #2

1. **Title of the Practice : Learner-Centered and Innovative teaching Methods**
2. **Objectives of the Practice:**

- Transition from traditional teaching to methods that foster active student involvement
- To inspire students to think critically and innovatively by integrating activities like Hackathons and creative assessments into the curriculum.
- To strengthen the connection between theoretical knowledge and practical applications through lab-cum-theory courses, service learning, and community-focused projects.
- To equip students with critical thinking, problem-solving, and collaboration skills through unconventional learning methods, including outbound learning programs.
- To enable educators to adopt student-centered pedagogies through targeted faculty development programs, the use of digital tools, and resources provided by the Centre for Teacher Excellence (CTE).

3. **The Context**

The NITI Aayog report on Higher Education 2021 states that India needs to significantly expand its higher education system to achieve a 50% enrollment rate. Against this backdrop, the demand ratio in some courses like Natural Sciences is hitting the bottom line, revealing student disinterest in learning such courses.

Over 13 lakh Indian students move to countries abroad for Higher education. A recent survey shows that, the major reason for the big exodus post pandemic is not only found to be better career opportunities abroad but also due to (i) students like the flexibility of the academic system in the countries abroad and (ii) learner centered approach with aspects of a knowledge discovery path ingrained in every course in Higher Education abroad.

It is therefore imperative that the academic ecosystem needs a transformation and the pedagogies adopted post pandemic need to be more engaging and learner oriented to retain leaner interest.

The Institution took conscious steps to change the classroom culture and ingrain contextual skill training, research, community engagement innovation events, practice schools and more field activities as part of courses from 2021.

4. **The Practice**

A few initiative taken during the current Academic Year:

1. **Innovative Approach in Internal Assessment:**
   Traditional copy-down assignments in all courses were replaced with submissions of creative business ideas, models, and original writings or experiments developed by students.
2. **Hackathon Events to Foster Innovation and Entrepreneurship:** Departments organize Hackathons where the best product ideas are selected to participate in the Intradepartmental Research Conclave from 2022. The top ideas are awarded and paired with mentors from the IIC, helping them to grow into products and prototypes.
3. **Incorporating Research Projects into UG Programmes:** All Undergraduate students engage in research projects as part of their core courses in the final semester. This initiative encourages students to contribute to knowledge creation through research. Additionally, some departments have introduced research preparatory courses to facilitate this shift.
4. **Community-Centered Research in the Service Learning Programme:**
   With a vision of fostering education with ecological and social consciousness, the Institution offers Service Learning courses across 30 themes, helping students address societal challenges through their service projects. Students apply classroom learning to

community service through Service Learning projects in their fourth semester.

5. **Outbound Learning for 21st Century Skills:**
   Skills such as critical thinking, collaboration, and problem-solving are nurtured through non-conventional outbound learning activities. The college has an Outbound Learning Arena, valued at 21 lakhs, equipped with safety equipment, providing students with opportunities to tackle challenging tasks and develop adaptability and agility.
6. **Transition from Theory to Lab-Cum-Theory Courses:**
   In 2023, certain non-major elective courses, including Mushroom Cultivation, Computational Chemistry, and Drug Design Applications, were converted into Lab-Cum-Theory courses. This shift, which incorporates more hands-on and practical components, has increased student engagement.
7. **Faculty Development Programs in Student-Centered Pedagogies:**
   In 2023-2024, 26 Faculty Development Programs (FDPs) were held, focusing on pedagogical aspects such as Service Learning, ICT and Classroom Engagement, and the adoption of AI in teaching. These programs were designed to help faculty transition from a teacher-centered to a learner-centered approach. A total of 643 faculty members benefited from these FDPs.
8. **Centre for Teacher Excellence (CTE):**
   The CTE, established with an investment of 27 lakhs, serves as a dedicated space for teacher capacity building. It supports self-assessment of teachers, offers consultations to improve classroom skills, and facilitates the recording of live lectures for peer evaluation and collaborative learning.

Evidence of Success

1. Student enthusiasm and involvement in Innovative assessment was evident in all the departments. Some of the original works of the students were awarded special prizes in Intra-departmental events. Higher order thinking skills were assessed through Innovative component assessments.
2. Pass percentage improved in courses which were considered more rigorous and less learner rated after the introduction of Practicums and projects. 1220 students took up Higher education or research after completing the UG degrees/ PG degrees.
3. Student feedback shows that the Outbound Learning experience has improved the confidence level of the students. The reflection time, after the activities, which were recorded in the Course Workbook revealed that students found focus and drive for learning more through the activities.
4. The FDPs and their impact was felt in the classroom quality. Student assessment of the teachers on a six point scale showed that the maximum score awarded to teachers across departments increased from 85-90 in 2022 to 85- 95 in 2023.

5. Problems Encountered and Resources Required

- A significant hurdle is the time and effort required to design and develop high-quality e-content, such as Short Learning Object videos, which demands meticulous planning and coordination among faculty. Balancing these responsibilities with regular teaching duties can be overwhelming for educators. Skilled technical staff to manage and maintain digital tools is necessary to address this.

- Another challenge is the varying levels of technical expertise among faculty members. Training educators to effectively use advanced tools like Lecture Capturing systems and Digital Boards requires additional resources and

time. Limited infrastructure and funding can also hinder the execution of learner centered pedagogies.

- Motivation among faculty to use new pedagogies regularly can be difficult. Addressing these challenges requires Institutional support, regular training, and a collaborative approach to ensure the long-term success of the CTE.