KMBB
College of Engineering & Technology

Approved by AICTE, New Delhi & affiliated to BPUT,Odisha

INSTITUTIONAL DEVELOPMENT PLAN

1. PREAMBLE

Higher Education Institutions(HEIs)-colleges, universities, and institutes, are complex enterprises given its scale, size &complexities. The college or university strategic plan provides guidance for institutional decisions, both long-term and day-to-day, to ensure that decisions and operations are: aligned to the institution's, vision, mission and values; complies with global development goals and rules and regulations of the government, accrediting bodies etc; ensures that the institution is effectively functioning and is financially healthy, and is a sustaining one. It helps an institution to focus on its future success by responding to the changes and are future-ready. The success of a higher education institution ranging from improving graduation rates to creating a more inclusive environment, requires expertise, time, and work from multiple units. By building relationships across departments; integrated strategic planning prevents duplicate or contradicting activities, creates opportunities for collaboration, and makes sure that time, effort and resources are optimally spent to realize the institution's mission. While formulating the Institutional Development Plan which is the integrated strategic plan of action, we need to contextualize the rationale and the larger macro-picture.

1.1 Over view and Back Ground-National Education Policy 2020

The development of an Institutional Development Plan (IDP) is central to the implementation of the transformative reforms of the National Education Policy 2020, with in the Higher Education Institutions(HEIs). An IDP is a well-designed action plan which will enable HEIs to charter their institutional growth and trajectory over an evolving period that can stretch up to 10 years. The Policy visualizes an important instrument of the Institutional Development Plan (IDP) that will serve as a vision document to guide the institutional transformation. The IDP will guide the academic programmes, human resource management, infrastructural requirements, ensure transparent and responsible governance, upgradation of quality, equity by ensuring the participation of Socially and Economically Disadvantaged Groups, and help in resource mobilisation, financial stability and sustainability.

1.2 Technical Education scenario in Odisha

Engineering Education was mainly confined to State owned or Govt. aided or Govt. controlled institutions with limited seats. The rapid developments in the field of technology opened manifold opportunities for engineering graduates which could not be catered by the government-controlled institutions alone and led to the larger role by the private sector. This resulted in the establishment of private self-financing engineering colleges on a large scale across the country, including Odisha.

The Biju Pattanaik University of Technology a State Government University, came into existence in November 2002 with an aim to give leadership to the technology related policy formulation and Engineering Education Planning for the State. It also emphasizes to improve the academic standards of the Graduate, Post Graduate and Research Programmes in Engineering Science, Technology and Management and regulate the academic standards of all colleges affiliated to the University. The main thrust areas of the University are Research, Development, and Innovation. Biju Pattanaik University of Technology is both a teaching and an affiliating university, with more than 137 affiliated colleges and over 100,000 students enrolled, having jurisdiction over the 30 districts of Odisha.

> NEP 2020, Para 19.5 reads *"Each institution will make a strategic Institutional Development Plan on the basis of which institutions will develop initiatives, assess their own progress, and reach the goals set therein, which could then become the basis for further public funding. The IDP shall be prepared with the joint participation of Board members, institutional leaders, faculty, students, and staff"*

1.3 Global Goals for sustainable development

The Sustainable Development Goals (SDGs), commonly referred as the Global Goals, are a clarion call for universal action to end poverty, protect the people and the planet and ensure inclusive human development and peaceful societies. In all, 17 SDGs have been adopted by the United Nations General Assembly in 2015. The significant role of education in attaining sustainable development was evident in the UNESCO documents wherein it reads: *"Universities must function as places of research and learning for sustainable development...Higher education should also provide leadership by*

practicing what they teach through sustainable purchasing, investments and facilities that are integrated with teaching and learning…. Higher education should emphasize experimental, inquiry based, problem solving, interdisciplinary systems approach and critical thinking (UNESCO, 2004, pp.22-23)".

SDG 4 stipulates "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" in all 10 sub-targets. The KMBB CET is committed to achieving these goals and targets.

2.KMBB STATUS, PROFILE AND ITS ROLE IN MODERNISM

2.1 Institutional Profile

The KMBB College of Engineering and Technology (KMBBCET) is a private engineering college functioning under the management of the "Ama Odisha Charitable Trust". The college was started in 2009 by Sj.Soumya Ranjan Patnaik to contribute to the society and its development realising that only Education can transform the society for a better living. KMBB CET is situated in Daleiput, Khordha, India.The college is situated in a beautiful and scape of 11 acres owned by the trust with provision for future expansion surrounded by lush greenery and serene topography merged into a calm and healthy atmosphere at the Daleiput, Khordha district.

The college is approved by All India Council for Technical Education (AICTE), and affiliated with Biju Patnaik University of Technology, Odisha (BPUT). KMBBCET is registered under the trust for the purpose of conducting various programmes in engineering courses and related research activities. The campus is known for its discipline, well equipped laboratories, well qualified and experienced faculty members with the best administration and governance. Other salient features of KMBBCET are providing quality academic programmes, healthy teacher – student ratios, syllabus supplements, good teaching learning facilities, platforms for skills and academic gap-bridging, student mentoring, excellent infrastructure and its upkeep, good and transparent administration, forums for social outreach and community involvement and a vibrant campus full of activities. In a very short time span KMBBCET has carved a niche among the student community by its excellent results in university examinations, student friendly campus with a perfect blend of innovation and research.

2.2 Pedagogical approach: Teaching-learning and Evaluation

2.2.1 Outcome Based Education (OBE)

OBE is followed to improve the quality of education and also to improve the knowledge level of students and to quantify it. Academic teaching learning process is followed for achieving basic level planning. Based on the university academic calendar, IQAC prepares the institution academic calendar by including all the academic and non- academic activities. Add-on courses are offered by the institution to fill the gap in the syllabus and also to make the students updated about the latest technologies. All the students have to study common courses during the first year & branch–specific courses including elective courses from the second year onwards. Some of the curriculum implementation strategies are: course plan preparation, formation of course & class committee, identification of group tutors & mentors, Students' Performance Enhancement and Assessment Cell–for result improvement and monitoring, arranging industry visits & internships, identifying and offering Add-on courses and minor courses. Through the various committees formed in KMBB CET, students are able to sensitize the issues related to gender, environmental sustainability, professional ethics, human values for the development of students. Curriculum enrichment is attained by offering add-on courses, value added courses and training on soft skills, placement training, Industrial Visits, Internships and Industrial Trainings. KMBB CET has an Academic Management System(AMS) for uploading all the day to day activities of the course such as, course plan, time table, online attendance marking, internal assessment mark entry and report generation. Students are encouraged to select the elective courses as per their wish, do online courses, undergo industry visits/internship, attend inter collegiate seminars, attend hands-on workshops and presentations. KMBBCET has a curriculum based feedback system, collected from students, faculty members, alumni and employers. SPEAC focuses the attention on the continuous evaluation process of the students & takes/suggests measures to improve in weak areas. Department Advisory Board meets once in a semester to suggest the measures to improve the teaching-learning-evaluation process(if any)and other activities focused on the growth of the department as well as the measures to make the students industry ready equipped with latest technologies.

2.2.2 Teaching-learning and Evaluation

IQAC prepares the college academic calendar in line with the University academic calendar by incorporating co-curricular and extra- curricular activities. Subject

allocation is done by the respective HoDs at the beginning of the semester by considering the faculty specialization,experience and work load.Teaching plan for each course is prepared by the respective faculty ensuring the minimum contact hours in the syllabus and the same is verified by the Head of the Department. Feedback on the course delivery is taken from all the students and through the class committee twice in a semester and the same is communicated to the respective faculty for the corrective measures.PO`s and PSO`s are developed at the department level.Course plans and CO`s are prepared by the respective faculty handling the course, approved by the committee consisting of HOD,course coordinator and module coordinator.For the smooth progress and to ensure the timely completion of the course,KMBB CET has constituted the class/course committees, including senior faculty & student representatives. At the end of each semester, DAB(Department Advisory Board) evaluates the performance of all the academic and non-academic activities of the department to find out the deficiency & are as for improvement.Student feedback based on the course delivery is taken twice in a semester and prepares a plan that is to be worked out in the upcoming semester.Student feedback based on the course delivery is taken twice in a semester & course wise performance analysisis carried out based on the student feedback & are communicated with respective faculty handling the course. Corrective measures for improvement are suggested to those who had performed lower than the set benchmark.

Internal examinations are conducted by the institution as per the frequency and schedule prescribed by the University. For each test two sets of question papers are prepared by the concerned faculty, which are further scrutinized and verified by a committee composed of module expert, subject expert and HoD to ensure the standard of the question paper. After scrutiny IQAC selects one of them and forwards it to the examination cell for the conduct of exam as per schedule. Students are allowed to see their evaluated answer scripts along with a scheme of evaluation. Students can also view the marks on AMS-Lin ways(Learning Management System). Based on the marks secured by the students in internal examination, assignments, continuous assessment in

Labs,practical examinations and viva voce internal marks are awarded.After finalizing the internal marks, the same will be published in the notice board and will be shared to the students.

Academic Management System (AMS) software is in place to share all the academic activities among students, staff and parents. For the internal evaluation

of theory and practical courses, an internal committee is constituted of module expert, subject expert & Head of the Department. As per the guidelines of the University, to complete their degree, apart from securing minimum pass marks in the University examination, students have to obtain activity points through participating in various co-curricular and extracurricular programmes.

The institute has taken various initiatives to integrate the issues in relation to gender, environment and sustainability, human values and professional ethics. In order to create awareness among students on professional ethics and environment & sustainability related subjects were introduced by the University. Anti- ragging cell, women cell and student grievance redressal committee take care of the gender issues if any.

It is significant to note that some of the faculty members of the College are members of the Board of Studies of various other institutions & Doctoral Committee Members in various other universities.Some of the faculty members are involved in question papers setting for the university examination and as observers for monitoring the conduct of university examination in other engineering colleges affiliated to BPUT. Few of the faculty are resource persons for various FDP's/Workshops conducted by other institutions, while few have been invited for submitting the journal papers by some publishers.

KMBBCET has taken measures to increase the usage of ICT enabled teaching - learning and to maximize the use of learning management system software.In order to encourage and motivate self and participative learning,students are directed to do the assignments and presentations to learn the specific topics from the syllabus.The institution motivates the students to do internships /industrial visits/ training related to their area of study. KMBBCET staff and students are always encouraged to participate in workshops/short term trainings/seminars/ national or international conferences. The faculty members are always encouraged to prepare & organize conferences, seminars and workshops and also

To undertake research and consultancy works. They are also encouraged to publish their research works in reputed journals approved by UGC.

2.3 Research, Innovations and Extension

KMBB CET aims at promoting research & development among the staff and students.

Undergraduatestudentshavingaptitudetowardsdoingresearchareidentifiedandprope

r training is provided to make them capable of undertaking small research works as their B Tech projects. Innovation and Entrepreneurship Development Centre (IEDC) encourages the students to develop their projects into products. IEDC creates an innovation ecosystem by coordinating with agencies like Odisha start-up mission and other funding agencies. KMBB CET always tries to associate with the local authorities - government agencies, public utility services to undertake consultancy works or to conduct outreach programmes. This enables the students to identify the issues faced by the public and to find solutions for it. This could help the students to become socially committed engineers with problem solving skills.

2.3.1 Research and Development Cell (R&D Cell)

The College has a research and development cell in order to promote the activities of staff and students in the research domain. It plays a crucial role in promoting innovation, creativity, and intellectual curiosity among students, faculty, and staff. R&D Cell is taking steps to start IEEE students' chapters with students' initiative. Some of the key roles and responsibilities of the cell are:

- **Encouraging research:** Provides a platform for students and faculty to engage in research activities. It encourages students to develop a research-oriented mind set and guides them in identifying research topics, conducting literature surveys, and developing research proposals. Encourages taking up funded projects from DoE and DST and facilitates the process of getting projects.
- **Promoting innovation**: Fosters a culture of innovation by organizing workshops, seminars, and guest lectures on the latest technologies and research trends. It also promotes collaborative research among faculty and students and encourages them to develop innovative projects and prototypes.
- **Building industry-academia partnerships**: Facilitates collaboration between the industry and academia by organizing joint research projects, internships, industrial visits. It helps students to get exposure to the latest technologies and industry practices and facilitates the knowledge transfer from academia to the industry.
- **Disseminating research findings**: Promotes the dissemination of research findings by organizing conferences, symposiums, and publishing research papers in reputed journals. It helps students to apply for patents and commercialize their research projects.

2.3.2 Research Policy:

- To develop infrastructure for conducting research activities.
- The target is to have at least 1 doctoral candidate in each department.

- High quality research output measured in terms of number of quality publications per faculty and from each department. The goal is to achieve a minimum 2 publications per faculty member in an academic year.
- The college also aims to focus more on creation of patents and intellectual properties in all departments.
- Serving people with special educational needs.
- The college also aims to focus more on creation of patents and intellectual properties in the science, and Engineering departments.
- Encourage and depute faculty members to attend induction programmes/ orientation programme/ refresher course/short term course and other training programme.

2.4 Institutional Values and Best Practices

This is a co-education Institution and maintains gender equity. All female staff and students in the College are free to lodge complaints, if any, with regard to any kind of misbehavior/ill treatment/discrimination by any one.

For girl students, separate washrooms, toilets, common rooms, facilities for doing prayer and ladies' hostels are available.The Institute has established a separate women cell to conduct any women related functions and take care of any of their grievances.

The College is full of greenery and is neat and clean. The Institute celebrates all commemorative days of National importance like Independence Day,Republic Day and other important days like Engineer’s Day, Teacher’s Day, Women’s Day etc. with appropriate cultural and social activities.As a part of thecurriculum an on-creditcourse is offered to the students on the Constitution of India to create awareness among the students about the values, responsibilities and rights as citizens of the country.

The Institute’s acclaimed best practices is the starting of a programme called “Rural Economic Value-added Mentoring programme (REVAMP)” with a motto of uplifting the community of rural areas. Under this programme the Institute has conducted workshops / seminars / orientation classes in association with the nearby Gram Panchayats on LED bulb assembling workshop, supply of LED bulbs at free of cost by the Institute to nearby community to replace CFL and incandescent lamps.

2.5 Technology Policy:

- To develop smart class rooms.
- To strengthen library, e-Resource and Reading room facility
- Enhancement of ICT in teaching and learning process to Create modern teaching environment
- To strengthen automation of administration and examination process.
- EDUSAT based learning.

2.6 Community Service Policy and Social Responsibility

The envisaged community service policy for an engineering college should align with the college's mission and goals, and should prioritize creating meaningful connections between students and the communities they serve. These are:

- Enable private public partnership by inviting and collaborating with NGOs and other agencies. Establish partnerships with local community organizations, such as non- profits, schools, or government agencies. These partnerships could provide opportunities for students to engage in meaningful service projects that address community needs.
- Aim to encourage students to use their engineering knowledge and skills to benefit the wider community.
- Various activities,such as volunteering at local organizations, participating in service projects or engaging in research or development projects that benefit the community are undertaken & encouraged.
- Encourage or require faculty to integrate community service into their courses. For example, students might work on a project for a community partner as part of a course assignment.As acommunity service, students can help a palliative care unit or doing electrification work for houses of a poor family etc.
- The college could provide funding and logistical support for community service activities, such as transportation, supplies, and training.

- Be environmentally responsible in promoting sustainable practices, such as, minimizing waste and pollution, adopting green technologies.

4.0 PRESENT SWOT/SWOC ANALYSIS

4.1 Strengths

- It is a self-financing private college having substantial functional autonomy with AICTE approval and ISO Certification.
- Committed management, qualified and experienced faculty and dynamic staff to ensure the quality in all aspects.
- KMBB CET provides excellent infrastructure and ICT facilities including classrooms, library, transportation system and Wi-Fi etc.
- Maintains a good student-faculty ratio and essential staff retention ratio
- Has a very active and vibrant internal training team & placement cell.
- CCTV monitoring system for safe and secure campus.
- Faculty members are encouraged to organize and participate in workshops, seminars, FDP and STTPs for quality improvement
- Scholarshipschemesareprovidedtomeritorious/economicallyweakstudents.
- Effective committees/cells for student grievance redressal .
- Physical Education Department creating a constructive physical learning environment
- Innovative practices like SPEAC,REVAMP is implemented for student performance enhancement and to develop social responsibility.
- Senior academicians are serving as members of the Academic Council.
- Institution has tied up with near by hospitals for medical emergencies.
- Induction/orientation/UHV programmes are conducted.
- Institution promotes experiential learning.
- ICT enabled teaching-learning process is practised.
- MoUs with various national/international organizations.
- Student activities , such as fests are conducted and students are encouraged to participate in various competitions and tournaments

4.2 Weaknesses

- Very limited Industry- academy interaction for projects, consultancy works and extension activities
- Lack off aided projects and patents.
- Limited subscription to Quality journals and publications
- Limited Inter disciplinary and collaborative Research
- Lack of student/faculty exchange programmes.

- Insufficient Smart class rooms and ICT enabled learning
- Inadequate institutional branding
- Need to improve basic amenities such as Gym, canteen, auditorium, and waste management

4.3 Opportunities

- Located in a rural area, near the coastal belt of Odisha, there is a great scope to provide quality education to the rural students
- Availability of land for expansion of academic programmes and building new infrastructure for teaching, training and other facilities - incubation centres etc.
- Improving access through road connectivity to highway
- Enhancing green initiatives for sustainable development of society.
- Potential to create awareness among youth for competitive examinations such as UPSC, GATE, CAT, GMAT, TOFEL, GRE.
- Increase regional recognition through socially relevant regional projects
- Develop repreneurial skills through internships, hands on training and practical experience
- Possibility of forging linkages with international organizations and industries.
- More candidates showing interest in opting for emerging fields in engineering, there by scope to offer new courses in demand driven areas.
- More platforms are opened by government/universities to promote research activities, which offers more convenient places for research.
- Environmental challenges need more engineering based studies. which seems to be an opportunity for the budding engineers.

4.4 Challenges

- Maintaining good rank among engineering colleges and to scale greater heights.
- Attract and retain expert faculty at all levels.
- Media and peer-group influence negatively affecting the academic orientation of students.
- Changing admissions cenario in the field of Engineering and technology
- Updating in teaching-learning process with rapid change in technology
- Non-availability of visiting and adjunct faculty from industry
- Remoteness of the college from the major cities and facilities such as airport, railway station.

5. STRATEGIC APPROACH AND GOALS

5.1 Strategic Approach adopted:

- KMBBCET would need to adopt quick and short term (2 years) tactical plans to achieve its immediate goals whilst long term strategic goals are being incubated.
- It is recognized that whilst the strategic plan emphasizes on analyzing and mapping the longer-term objectives of KMBBCET, a speedy tactical plan should be established to add immediate concerns and achieve current goals (i.e. better income cost ratio eventually leading to breakeven).
- In formulating this approach, it is evident that the short-term tactical plan can be spelt with facts and details, as they are based on known circumstances that exist within the ecosystem; whilst the long-term strategic plan can be formulated based on predictions that are usually more difficult to gather and there is heavy reliance on assumptions and future conditions of the ecosystem.
- Never the less, the tactical and strategic approaches complement each other and form a continuum as the tactical planning focuses on what to do in the short term to help the College achieve the long term objectives determined by strategic planning.

5.2 SHORT-TERM AND LONG-TERM GOALS AND ACTIONS

The detailed table provides the short-term and long-term actions based on the identified Strategic Goals. It may be noted that some targets are universally critical, ongoing and non-negotiable- such as 100% admissions in all streams, improving examination results, getting 100% student placement in reputed companies.

However, it may be pragmatic to stipulate **some immediate actions** that can be initiated in the **coming academic year 2025-26**.

These may spill -over and run into the short-term actions that are expected to be done by 2026.

1. NBA accreditation
2. NAAC Accreditation
3. Acquire NIRF ranking

4. More focused promotional activities to substantially increased student enrolment
5. Faculty capacity building workshop on a continuous pattern; qualification enhancement by faculty
6. Student mentorship activities to be improved
7. Rework on departmental location of class rooms to provide/optimize space for new add-on value based courses
8. Obtain at least one industrial consultancy, GOI or State Govt. funded project
9. Develop preparedness to compete for international funding projects
10. Enlist subscription for a couple of good journals
11. Conduct educational fair for institutional marketing and branding
12. Construct a 25-seater guest house building of good standards