



MVGR College of Engineering (Autonomous)

Since 1997

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INSTITUTE POLICY



INSTITUTE VISION AND STRATEGIC PLAN

It is important to note that for MVGR to become an institution of eminence in the country, dedicated effort must be laid in designing a curriculum that helps the students to be groomed systematically to become successful in industry (irrespective of the type of industry) through well-planned and executed continuous engagement leveraging on the concept of cooperative education by bringing industry to the classroom.

In the light of the above, the vision statement for MVGR has been redrafted. A detailed strategic plan based on the vision has also been prepared. The same are enclosed herewith and will serve as guidelines for functioning of the institution. Departments shall plan their vision, objectives and action plan in line with the vision of the institution.



By Order


DIRECTOR
MVGR College of Engineering (A)
VIZIANAGARAM-535 005

MVGR VISION 2030: TOWARDS A SUSTAINABLE EDUCATION ECOSYSTEM

1. INTRODUCTION

Sustainability is one of the most critical domains of worldwide attention. In its General Assembly on September 25, 2015, the United Nations adopted a blueprint for peace and prosperity of the planet and its people. The document, while identifying 17 Sustainable Development Goals (SDGs), also delineates the means of implementation, global partnership, follow up and review mechanisms. Adopted by all the UN member states in 2015, this resolution is a call to all developed and developing nations to come together in a global partnership to address the 17 SDGs for all-round prosperity. As part of the 17 SDGs, a total of 169 associated targets were also announced by the member states.

The United Nations Sustainable Development Goal 'SDG 4: Quality Education' aims to 'ensure inclusive and equitable quality education and promote lifelong learning opportunities for all'. The following are some of the targets of the UN listed under SDG 4 that are relevant to tertiary education (United Nations General Assembly Resolution, 2015):

4.3 By 2030, ensure *equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university*

4.4 By 2030, *substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship*

4.5 By 2030, *eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations*

4.7 By 2030, *ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development*

4.A Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, nonviolent, inclusive and effective learning environments for all

4.B By 2020, substantially expand globally the number of scholarships available to developing countries, in particular least developed countries, small island developing States and African countries, for enrolment in higher education, including vocational training and information and communications technology, technical, engineering and scientific programmes, in developed countries and other developing countries

4.C By 2030, substantially increase the supply of qualified teachers, including through international cooperation for teacher training in developing countries, especially least developed countries and small island developing states



The Government of India has formulated a comprehensive education policy with the explicit aim of restructuring the education system in keeping with its commitment towards implementation of SDG 4. The policy aims at bridging 'the gap between the current state of learning outcomes and what is required through undertaking major reforms that bring the highest quality, equity, and integrity into the system, from early childhood care and education through higher education'. India aims at building an education system that is second to none by 2040 with equitable access to the highest-quality education for all learners regardless of social or economic background (National Education Policy, 2020). While seeking to align the aspirational goals of 21st century education including SDG 4, the policy also emphasises the need to build upon India's traditions and value systems. The policy aims to achieve the above through teachers at the heart of fundamental reforms in the education system through *empowerment* and *autonomy* while ensuring *quality* and *accountability*.

In addition to SDG 4, there are other goals that hold relevance to higher education institutions (HEI) namely:

- SDG 3: Good Health and Well-being
- SDG 6: Clean Water and Sanitation
- SDG 7: Affordable and Clean Energy
- SDG 9: Industry, Innovation and Infrastructure
- SDG 12: Responsible Consumption and Production

It is imperative that any HEI work towards the furtherance of these 6 SDGs (minimally) in order to ensure that the foundation is laid for the pursuance and attainment of these goals at a member state level.

2. BACKGROUND

The need for focused efforts in sustainable development of the planet cannot be overemphasized given the wide-ranging issues faced by the world today be it climate change, terrorism, economic collapse, conflicts among nations, natural disasters etc. The role of HEIs in addressing the SDGs is critical in offering a holistic curriculum that builds awareness and responsibility among the students towards these issues as well as forging partnerships with other institutions and governmental agencies towards building meaningful solutions (Kestin, 2017). Across the world, the education sector is also turning its focus onto sustainable development on account of efforts by organisations such as the Sustainable Development Solutions Network (SDSN), the UN Educational, Scientific and Cultural Organization (UNESCO) and other nationally focused member-based associations. HEIs hold a unique position that enables them to contribute effectively in promoting sustainable development initiatives as illustrated in figure 1.

HEIs hold a unique position in society in that they deal with young talent nurtured over the years in technological and social skills. They have a strong team of academic staff, quality infrastructure and extensive network with other academic institutions and industries that empower them to effectively work on the SDGs through (a) curriculum

design and pedagogy, (b) research, innovation and technology development and (c) society outreach through field level interventions.

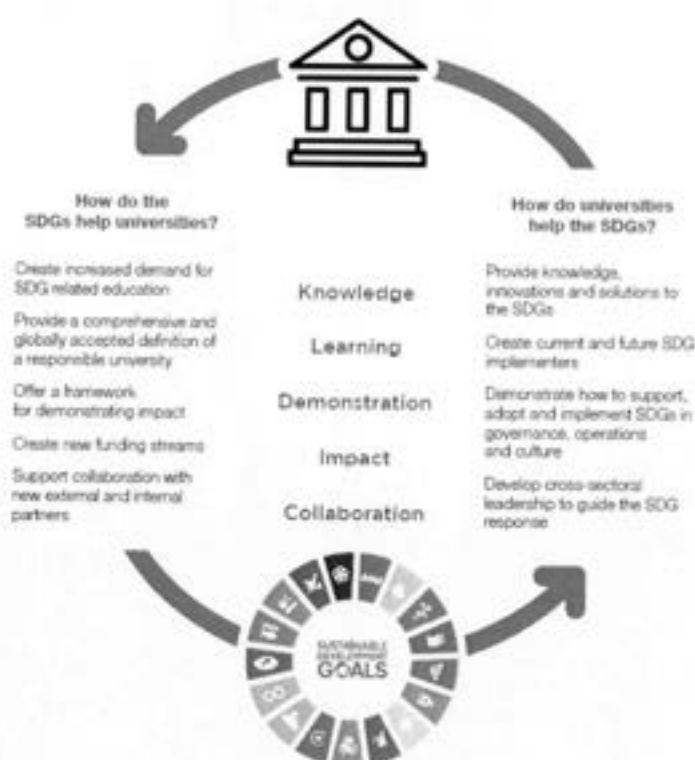


Figure 1: Role of HEIs in Promoting Sustainable Development Initiatives (Kestin, 2017)

2.1 Initiatives in Academia Worldwide

Several researchers have adopted models and methods to integrate sustainable development education and research into academic activities at HEIs. The vertically integrated projects (VIP) approach was originally initiated at Georgia Institute of Technology, USA and adopted by the University of Strathclyde, UK. The model was centred around the formation of student research teams from across the years of study in order to inculcate research based education for sustainable development (RBESD) so as to work on the same project throughout their university term (Strachan et al., 2019). The United Nations has been furthering the cause of Education for Sustainable Development (ESD) since 1992 by suggesting learning objectives and activities for each of the SDGs (UNESCO, 2017). The report identifies key competencies that are crucial to advance sustainable development as listed below:

1. Systems thinking competency
2. Anticipatory competency
3. Normative competency
4. Strategic competency
5. Collaboration competency
6. Critical thinking competency
7. Self-awareness competency

8. Integrated problem-solving competency

The report also goes on to defining learning objectives for each of the 17 SDGs in three categories namely (a) Cognitive domain (b) Socio-emotional domain and (c) Behavioural domain (UNESCO, 2017). Other attempts have also been made to integrate learning for sustainable development in engineering education and review definitions/frameworks for sustainability (Leifler and Dahlin, 2020; Wright, 1997).

Several works of research have been carried out to identify ways of learning. In a published survey of transformative learning experiences carried among participants (mostly Canadian), it was found that transformative change was not like an acquired skill to one dimension. It was a fundamental "sea-change" that encompassed the whole person. To experience this, such learners may want to put themselves in situations where their fundamental values, perspectives and assumptions are challenged and where strong emotions are likely to be evoked (Ball, 1999). Alternate methods of learning have been studied by other researchers as well looking into several approaches such as cooperative learning, collaborative learning, transformative learning, integrative engineering education with community service etc. (Moore, 2005; Coyle et al., 2006; Nelson et al., 2021). Yet another research work focussed on the processes involved in developing cooperative education programs. Several benefits were identified for students, educational institutions and business houses. For students, it offered opportunities to assess career possibilities and prepare accordingly. For the colleges, it provided a new approach to student and curriculum assessment and thus get better students while for the business houses, such partnership opened up opportunity to obtain temporary workers (Thiel and Hartley, 1997).

The above are just some of the directions in which transformation of the education system is being attempted. World-over, attempts have been made for more than a century and are on-going in order to integrate industry practices and community challenges, improve student absorption and build curriculum not only addressing the industry/local needs but also the global efforts towards sustainability.

2.2 Academia-Industry Networking

One of the major challenges faced by all nations is the divide between academia and industry. Industrial houses are at the forefront of technology and business and need to keep pushing their frontiers to stay relevant. However, it is very expensive for an industry to dedicate enormous amounts of time and resources toward technology development for future business diversification. With its large talent pool of staff and students, academic institutions are a wealth of resource that can be effectively deployed towards technology development and thus building the economy. However, there are major challenges on both sides in addressing this situation in India. The industry does not have the time and space to spare in working with academia to bring them aboard. Academia, most often, do not appreciate the urgency and deadlines with which industries work leading to all technology development activity becoming prioritised

way below curriculum delivery. Despite extensive discussions and accusations from both sides, there has not been any significant effort to close this divide. Things are a lot different in some of the developed countries that have deeply appreciated this need and devised methods to effectively address it.

A case in point is that of Kettering University located at Flint, Michigan, USA. Founded in 1919 with the goal of training technical and management talent for the growing automobile industry, the school started offering a full four-year cooperative education program. Appreciating the value of the program, General Motors Corporation acquired the institute in 1926 renaming it as the General Motors Institute (GMI). Over the next 56 years, GMI became the best source of creative and successful engineering and management talent (Kettering University). It all started with a few workers coming over to a classroom at Flint in Michigan with the hope of a better life in the auto industry through General Motors. The idea and working model of 'cooperative education' that combines classroom learning with structured job experience was later presented to the leadership of General Motors that led to the birth of GMI which was later renamed Kettering University (Hinterman, 2019).

The concept of cooperative education was developed at the University of Cincinnati (UC) in 1906. It is defined as an education methodology in which periods of classroom instruction alternate with periods of paid discipline-related work experience. Cooperative education programs were established initially to bridge the gap between theory and practice in engineering education and meet industrial needs. The four components of cooperative education deal with (a) developing a curriculum integrating needs of industry with academic requirements (b) careful design of the work component to ensure its contribution to the experiential learning process (c) cultivation of a loyal supporting industrial base and (d) establishing a structure to sound practices of monitoring and evaluating students before, during and after the work experience (Haddara and Skanes, 2007). The idea behind this approach is to allow for students to go through extended real-time industry 'experience' alternating between periods of classroom instruction so that the same can be converted into 'experiential learning' for which the student can get academic credit. This approach greatly benefits students to learn better as well as build their careers while at the same time helping industries to source qualified and motivated interns who could become capable employees.

2.3 Autonomy and Education Quality Enhancement in India

India has a very big network of higher education institutions. As of 2020, there are a total of 1,113 universities, 43,796 colleges (affiliated and constituent colleges belonging to 314 universities) and 11,296 stand-alone institutions not affiliated to universities such as polytechnics, teacher training institutes, nursing institutes etc. Based on the survey conducted by the Ministry of Education, Government of India, there are a total of 235 universities under the central government, 422 under the state government and 446 privately managed universities (AISHE 2020-21). As of 2021, there are 3,087 engineering and technology institutions offering 24,514 courses with a total intake of



14,34,514 students (Annual Report and Audited Accounts 2020-21). The benchmark of the education ecosystem in India has been represented for several decades by the IITs, IIMs and NITs with several institutions attempting to emulate them. With the grant of autonomy to institutions affiliated to state universities, several of the autonomous colleges have modelled their curricula on the lines of these universities.

A case in point in the transformation of the College of Engineering Pune (CoEP) from a government-aided autonomous college affiliated to the University of Pune to an IIT-like institution exercising complete autonomy. Despite being established by the British in 1854, CoEP fell behind the IITs that had been set up on the 1950s and 1960s. CoEP was granted complete autonomy (academic, administrative and financial) in 2004 from whereon, the process of transformation was initiated by Dr. F. C. Kohli, who was invited to become the Chairman of the Board of Governors. The process of transformation got underway after Dr. A. D. Sahasrabudhe was brought in from IIT Guwahati by Dr. Kohli, to take over as the Director of CoEP in 2006. A remarkable turnaround in the quality of education at CoEP was achieved in a span of 6-7 years in terms of inspiring and motivating faculty members and staff to create a student-centric institution, pursuing global standards of quality and commitment to all-round development of students into top-class engineers, researchers and entrepreneurs. Several critical success factors including the vision of the Chairman, hands-on involvement of all members of the Board of Governors, leadership of the Director, open-mindedness of the faculty members, mentorship of IIT Bombay and contribution of the alumni and industry made the transformation of CoEP into an IIT-like institution possible. Several critical initiatives were taken up as part of this transformation process. The first step was to carry out a broad-based, inclusive effort towards redefining the vision for the institution. A detailed SWOT analysis was carried out and action points were defined with the formation of cross-functional teams to achieve the goals. Mechanisms were defined to identify best performers and empower faculty members as well as improve operating efficiency through establishment of management information system. Critical in the success of this initiative was the quality time spent by each member of the Board of Governors (2 hours per week per member) that helped drive the initiative ground-up. Having successfully put in time and effort into quality education delivery, CoEP then turned its attention to becoming a top research institution (Chandran-Wadia and Sivakumar, 2014).

3. ORGANISATIONAL LEADERSHIP

Fundamental to the success of any organisation is visionary and transformation leadership. The cases mentioned above, while bringing about transformation in teaching-learning, are also examples of visionary leadership. There are several other examples of astute leadership drawn from various other organisations types (not necessarily academia) which serve to highlight the great gains that can be achieved with visionary leadership.



HCL Technologies (HCL), one of the software service providers in India, was in a tough spot in the year 2005 when Vineet Nayar took over as the Chief Executive Officer (CEO). The company had 30,000 employees, operations in 18 countries, yearly revenue of \$700 million and a compound annual growth rate (CAGR) of 30% over the previous 5 years. However, behind these very impressive figures was the fact that the one-time leader in the market, HCL was growing slower than the other competitors and losing market share (Nayar, 2010). Despite all of HCL's reputation and market presence, HCL was facing difficulties due to the Government of India's deregulation policy that allowed multinational companies like IBM to come into the competition. In addition, customers were increasingly demanding integrated IT services and companies were increasingly off-shoring re-coding and application development work to India on account of the low cost. Vineet Nayar came up with an ingenious approach entitled "Employees First, Customers Second" (EFCS) to bring about a transformation in the organisation in terms of *what* they did and *how* they did work. EFCS had rejuvenated the company. HCL was no longer losing market share. Revenues were up 44% year-on-year (Hill et al., 2007).

Yet another example of leadership excellence is that of Mary Barra, who, prior to taking over as the first lady CEO of US automotive giant General Motors Corporation, was the head of GM's product development. She had an ability of working with people and bringing new models faster to the market and at lower cost. It was Mary Barra's ability to encourage team work that catapulted her to the top of the organisation of more than 200,000 employees. She built a culture of team rather than personality - putting together a team and making sure things were done right (Edmondson, 2014).

Incurring losses for 7 out of 8 years in a row, Nissan Motor Corporation appointed Carlos Ghosn as its first non-Japanese Chief Operating Officer (COO) in 1999 when Nissan formed an alliance with Renault. Despite being non-Japanese and having no exposure to Japanese culture, which is a critical requirement for success in Japan, Ghosn built on the strengths of the different cultures to give everyone a chance to grow personally through consideration of different perspectives rather than impose one culture on all. Ghosn's philosophy was based on three principles namely transparency, focus on execution and communication of company direction and priorities. Ghosn put in place a revival plan that produced a complete turnaround in Nissan's market position from operating losses to profitability in a year. Reduction was carried out on many fronts namely supplier costs by 20%, number of parts suppliers by 40% and number of service providers by 60%. Yet the number of car models that were profitable increased to 18 out of 36 models from 4 out of 43 models that were earlier being made (Millikin and Fu, 2003).

The above cases represent examples of astute and visionary leadership of organisations especially during a downturn. Several vital lessons on leadership traits, strategies, evaluation of circumstances and crisis management can be seen in full demonstration. These lessons are not only a great source of inspiration but also present a way forward for MVGR to redesign and redeploy its talent pool to become an institution of eminence.



4. ENVISIONING QUALITY EDUCATION

As seen from the case studies described above, a great many initiatives in pedagogy, curriculum design, industry networking and organisational leadership have been taken up all across the world for more than a century. The education sector in India has been very slow to bring in change and work with multiple pedagogical approaches that meet the needs of diverse sets of students. As an affiliated college under the Jawaharlal Nehru Technological University system for close to three quarters of its existence, MVGR has been no exception to this. However, the rapid changes in the world order, the implementation of NEP2020 and the transformation of the Indian economy present a great opportunity for MVGR to make a breakthrough. The following lessons learnt from the examples of transformation described above, can be implemented at MVGR:

1. Building strong, visionary institutional leadership
2. Shifting focus onto a teacher-centric administration while ensuring student-centric learning environment
3. Ensuring vision-building and transparency across the organisation
4. Ensuring accountability at all levels
5. Empowering people to drive transformation
6. Fostering the small group activity model
7. Bringing the industry to the classroom in the spirit of cooperative education
8. Building an ecosystem for education in sustainable development

MVGR College of Engineering, since its inception in 1997, has been one of the leading institutions in the region offering technical education and has been guided by the following vision:

MVGR College of Engineering strives to become a centre par excellence for technical education where aspiring students can be transformed into skilled & well rounded professionals with strong understanding of fundamentals, a flair for responsible innovation in engineering practical solutions applying the fundamentals, & confidence & poise to meet the challenges in their chosen professional spheres

Based on the UN SDGs and NEP 2020 and the detailed discussion as above, there is a need for MVGR to refine its vision to include elements therein that require a shift towards global standards of teaching-learning as well as building a more holistic and relevant educational experience at the tertiary level. In the context of a higher education institution (HEI), the relevant SDGs can be broadly categorized into two major areas of intervention namely (a) Engineering education (covering SDG 4) and (b) Research and development (covering SDGs 3, 6, 7, 9 and 12).

4.1 SWOC Analysis

A careful introspection of where MVGR stands today, given the status of the new world order and the rapidly changing national perspective, reveals the following:



Table 1: MVGR SWOC Analysis

STRENGTHS	WEAKNESSES
Established legacy and reputation	Poor implementation of strategy
Stable and supportive management	Poor document management system
Clear vision and strategy	Poor curriculum and teaching-learning system
Clear-headed top level leadership	No outreach to society and potential stakeholders
Total autonomy in decision-making	Poor student discipline
Mentorship of eminent leaders and academicians	No standard operating procedure
Excellent infrastructure and facilities	Strict rules and regulations are not implemented
Well-qualified faculty	Casual and complacent faculty attitude
Strong and supportive non-teaching staff	Weak intermediate leadership capability
Good network with other organisations	Very little development of non-teaching staff capabilities
Strong financial situation	Poor exposure of students to real-world challenges
Located close to highway	No effort to build student brand ambassadors
Wide-spread presence and connections in the district	Poor faculty networking with industry
Ability to design and deploy effective curricula	No focussed effort to build R&D competence
OPPORTUNITIES	CHALLENGES
Possibility to become CoE in the region	Weak captive student population in the region
Emergence of NEP	Emergence of private universities in the region
Access to CII and industry houses	Public perception as one of the many affiliated colleges
Access to premier institutions for mentoring/research	Students shifting away from engineering education
Large student population in coastal Andhra Pradesh	Increasing shift of students towards sub-standard education
Network with sports bodies	Not rising up to requirements of NEP Type III institution
AMTZ, SAMEER, BARC & NAASSCOM IoT CoE in Vizag	Generating start-ups and spin-off companies
Multi-disciplinary institutions under MANSAS	Diversifying into a truly multi-disciplinary institution
Leveraging MSME-BI status for creating start-ups	Managing the cost of basic education given the fee structure
Large MSME network in the region – consultancy work	Funding for research and technology development
Presence of pharmaceutical companies in the region	Funding for infrastructure development and expansion
Connections with foreign universities	Becoming fully residential: Constraints of staff & families
Good students joining private universities can be tapped	Attracting students from diverse cultural backgrounds
Training programs for industries in the region	Inviting large MNCs for on-campus placement drives

Given the presence of MVGR in the academic circles and also given the eminent stature of MANSAS Trust in the field of education for more than a century, MVGR is ideally poised to make a total transformation from being one of the many institutions offering professional education to becoming one of the nation's best institutions. Herein is the need to define what being 'one of the nation's best institutions' means. There are several examples of world-class institutions like MIT, Stanford, Harvard etc. and the IITs, IIMs etc. in India. MIT was founded to accelerate the American industrial revolution. Stanford University's vision seeks to achieve its founding purpose of promoting the welfare of people everywhere. This vision drives research, education and innovation at Stanford. Harvard University seeks to envision an unparalleled educational journey that is intellectually, socially and personally transformative. IIT Bombay is driven by the vision to be a leading global technology university that provides a transformative education to create leaders and innovators and generate new knowledge for society and industry. IIM Ahmedabad is focused on promoting excellence in scholarship through high-quality research, teaching and knowledge-creation, nurturing leaders of institutions and impacting the world of policy and practice.

As can be seen through a careful study of what these leading institutions envision towards their future, each of them focusses on a distinctive domain or challenge or position of existence that they aspire to attain or reach. Needless to say, such visions need to be grounded on their respective strengths, connection with their environment and nurturing ecosystem. Given the demands on the education sector

in connection with the thrust on the nation's economy by the Government of India, it is imperative that MVGR realigns itself to the direction in which the nation is headed by defining a vision 2030 (V2030), that would set the institution apart and make MVGR an institution of eminence in its own way. Needless to say, the SWOC analysis will form the basis of the definition of V2030.

4.2 Way Forward

As mentioned earlier, there are several institutions of eminence in the country offering a diverse blend of teaching-learning experiences. Duplicating the same at MVGR would at best be a weak attempt at imitation and at worst be the death-knell for the institution. Detailed deliberation has to be taken up to assess the institution and its ecosystem (as listed in the SWOC analysis above) and arrive at a clearly defined vision. MVGR is located in the north coastal region of Andhra Pradesh, an area that is largely agrarian in its economy and rural in its demography. The captive student population at MVGR is largely drawn from this ecosystem. Being from such a background, the students have limitations in their intellectual ability, as can be anticipated, especially in their comprehension of the concepts in mathematics and basic sciences. Most of their 12 years of school education are largely spent in scientific and linguistic expression in the vernacular domain with very limited exposure even to the rest of the nation, what to speak of the world. It is with this background and exposure that most of the students seek admission at MVGR.

Traditionally, curriculum design has been an aspect within the purview of the affiliating university with very little scope for the affiliated institutions to bring in reforms as needed for the captive audience. Even with autonomy, the usual trend among newly autonomous universities is to fall back on the curriculum of their affiliating university and institutions like the IITs and NITs in an attempt to draft a curriculum of their own. Most often, the curricula designed are slightly modified versions of these. However, a very important aspect to note is that the very purpose of autonomy is to design a curriculum that suits the intellectual ability of the captive or proposed student population and that which drives the institution towards attaining its vision. A direct modification of the curricula of established universities to fit the needs of a newly autonomous institution will be very seriously lacking in relevance and focus without an extensive study of how the students of that institution would be able to comprehend that curriculum and, more importantly, how they would be able to relate that learning to the career they intend to pursue. Unfortunately, most of these students have no idea of what a career is and how they could build one and therefore do not have an earthly clue as to how they could bring their learning to bear on it. Unless the institution has a very clearly defined vision of what it wants to achieve as an institution and what kinds of student abilities it needs to build in the process, any such institution will be relegated to one more of the run-of-the-mill institutions in the country. MVGR, with all its legacy and capabilities,



deserves a unique place in the education sector of the nation and most certainly in the state of Andhra Pradesh.

A careful study of the students who have passed out of MVGR over the last 10 years shows that most of the students move over to one or the other industry sectors for employment. The rest move over to higher studies in India or abroad. Given the ecosystem from where they come (as explained earlier), it is only obvious that these students can be trained to be suited to the industrial world. However, as seen from several interactions over the years with these students, despite their academic credentials as seen on paper, their comprehension of fundamentals and their ability to apply what they have learnt to real-life situations is very poor. Unfortunately, these are the most critical requirements for a successful career in industry – (a) sound understanding of fundamental concepts of engineering and technology (not necessarily in mathematical terms) and (b) the ability to identify real-time problems and apply these concepts to build meaningful solutions. The entirety of the present curriculum focuses on delivering fundamental engineering concepts in a classroom model with very little scope for extensive student self-engagement and application of concepts to defining and solving real-life problems. Competence is at present directly measured by the performance of the student through the end examination system which relies on rote learning and a one-time effort at the end of the semester rather than analytical ability and continuous engagement practiced throughout the semester, which are crucial abilities necessary for success in the industry.

It is important to note therefore, that for MVGR to become an institution of eminence in the country, dedicated effort must be laid in designing a curriculum that helps the students to be groomed systematically to become successful in industry (irrespective of the type of industry) through well-planned and executed continuous engagement leveraging on the concept of cooperative education by bringing industry to the classroom.

In the light of the above, the following is the revised vision statement for MVGR:

To create a learning environment and ecosystem that fosters continuous engagement in critical thinking, practical application and skill competence founded on relevant scientific principles to build a genre of engineers capable of effectively handling the challenges in industry, entrepreneurship and sustainable society development

MVGR, given the faculty strength and institutional infrastructure, is poised and adequately equipped to offer tertiary education primarily centred on quality teaching and learning along with research, innovation and technology development that can address some of the needs of industry and society. Being an institution situated in a rural area and close to a Tier 2 city, currently the IQ level of the students who seek admission at MVGR is ideally suited for the aforementioned areas of intervention. With strategically executed initiatives in these areas, MVGR will be



able to establish very high levels of competence thus enabling the institution to move towards cutting-edge areas of research and technology development along with inculcation of greater depth of analytical and critical thinking ability among the students since the institution will be progressively able to attract students with greater IQ levels over the years.

5. V2030: STRATEGIC ACADEMIC REFORM

With the above vision and learning from the transformational experiences of several organisations as discussed earlier, MVGR has to focus on three goals for all-round academic development:

- G1: Building strong academic staff*
- G2: Establishing clearly defined process and ensuring practice*
- G3: Development of curricula to bring industry and SDGs to classroom*

In order to be able to achieve the above goals, MVGR needs to adopt a two-pronged strategy for building and nurturing its academic ecosystem. While education needs to be student-centric so that the student is constantly engaged in diverse learning experiences, the academic administration needs to be faculty-centric so as to build a strong teacher base to facilitate student learning. The model, shown in figure 2, needs to be adopted to achieve the above.

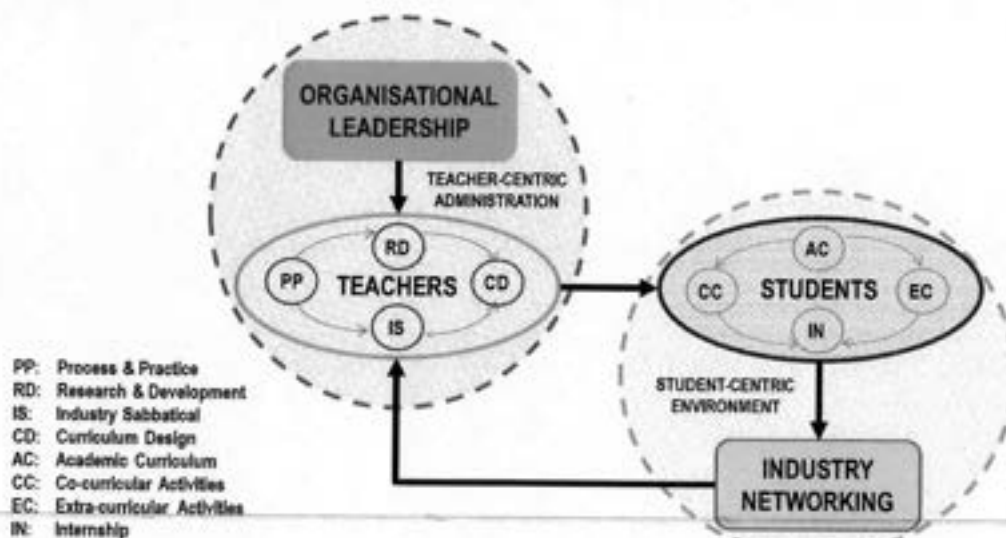


Figure 2: Two-Pronged Academic Administration Model

This model lays all of the institution's focus on two critical elements of the system namely faculty and students as against exclusive focus on students in a traditional student-centric system. While students are most certainly the end beneficiaries, all academic administration is focused on the faculty members as the key resource. The vision is to build a strong team of teaching staff who will drive transformation all across the organisation. This is an adapted version on the 'Employees First, Customers Second' or the EFCS model that was very successfully implement at HCL Technologies leading to

a major breakthrough for them in the market despite great competition and poor past performance.

For the above model to be grounded into the system, effort will have to be channelled into 3 key aspects as elucidated below:

5.1 Working with Educators

Most often in academic institutions that have been part of the system of affiliation to a University for several decades, the mind-set of the teachers tends to become attuned to that of an employee in a manufacturing shop floor. The focus of the teacher is locked on syllabus coverage, conduct of examinations, evaluation, student discipline and department administration work leaving very little mental space for curriculum design and keeping abreast with industry. This is a serious weakness that needs to be addressed to achieve the vision. There is great clamour for education to be made student-centric. While the experience in the institution should certainly be student-centric, the driving force must be teacher-centric. While the students should be at the centre of all activities because they are carried out by the students themselves, the teachers should be the central focus for the institution and its administration. All change and transformation of the institution can only be driven to its logical end by the teaching fraternity of the institution. Hence all focus must go to nurturing and supporting teachers in the following ways:

- Teachers should have the courage to look closely and honestly at what is being taught, question its relevance and quality and define clearly what the need of the hour is
- Teachers should be trained to express their views freely and share openly their knowledge and strengths thereby creating a culture of transparency and trust
- Create a chain of enablers so that difficulties faced by teachers in their work can be addressed effectively and efficiently
- Empower the small group model to bring fundamental transformation in the teaching-learning ecosystem

In order to implement the above strategy, the following steps need to be implemented at MVGR to build leadership vision among the teachers:

- (a) Regular training of teachers to build vision and leadership qualities through open discussions on institute vision and challenges
- (b) Build small groups of teachers at department level to work on curriculum design (content to evaluation)
- (c) Teachers should continuously network with industry or industry clusters that align with domains of curriculum and identify mechanisms for knowledge/practice transfer for content design
- (d) Based on that experience, bring industry requirements and experiences to classroom through structured student self-engagement
- (e) Build student skill training programs to meet additional requirements of the industry



- (f) Identify potential research or technology development requirements at the industry for continued collaboration through projects
- (g) Identify possibilities for developing training programs for the employees of the industry to be delivered by the teacher in-house or at MVGR
- (h) Eventually become a sought-after consultant to the industry to address their challenges and strategic requirements

Efforts made by teachers in this direction will bring about an all-round transformation in the vision and thought process of the teacher as well as completely transform the learning experience of the students at MVGR. Students will be able to experience the seriousness of working in the industry even through their curricular pursuits at the institution. Most importantly, the teacher will mature to take on the larger role of creating and fostering a learning environment than merely delivering content. Being one of the most critical pillars of the vision, such empowerment of the teacher will be the bedrock for strong industry networking and firmly bridging the industry-academia divide.

5.2 Addressing the Process-Practice Mismatch

One of the common challenges in any organisation is the glaring disparity between the planned or documented process and what is actually practiced on the ground. All organisations – whether industry or academic or the service sector – will invariably experience this mismatch depending upon how meticulously the overall system has been designed. If non-implementation of a well-defined process is one problem, lack of process definition itself is yet another problem. A lot of time, energy and operational efficiency are lost as a result of this mismatch. In order to empower the teacher, this aspect has to be scrupulously addressed. All the activities involved have to be clearly defined along with processes for execution of the same to the last detail. An information capture system or MIS will then have to be put in place to ensure that execution of these activities is tracked, recorded and compared with the defined process so that gaps can be immediately flagged and addressed. MVGR, being a large academic system, has very elaborate processes that are currently running, which need to be streamlined as mentioned above to give space to the teachers to build on their core areas.

In order to facilitate smooth functioning of the departmental activities at MVGR and ensure synergy, several different cells/committees need to operate within the department, each with a coordinator and a team of staff, to monitor the execution of the designated activity. The structured execution of these activities will automatically ensure that the necessary data is captured and collated, which in turn will make monitoring and audit easy both by internal teams and external agencies. The following are the different cells to be created within the department:

1. Departmental Academic Committee (DAC) – Curriculum design
2. Delivery Monitoring Cell (DMC) – Classwork, Attendance, Projects



3. Continuous Improvement Cell (CIC) – Best practices, Attainment analysis
4. Departmental Examination Cell (DEC)
5. Departmental R&D Cell (DRDC)
6. Departmental Infrastructure and Maintenance Cell (DIMC) – Purchase, lab maintenance
7. Departmental Learning Resources Cell (DLRC)
8. Departmental Training and Placement Cell (DTPC)
9. Student Development Centre (SDC) – Co-curricular, Extra-curricular, counselling, discipline
10. Faculty Development Cell (FDC)
11. Departmental Alumni Cell (DALC)
12. Departmental Innovation Cell (DIC)

All the members of the respective cells/committees will need to be appointed for a period of one year on a rotational basis. An example of one committee, its constitution and process definition is given herein as a sample of the process definition document required.

DEPARTMENTAL EXAMINATION CELL (DEC)

The departmental examination cell (DEC) is set up within the department to coordinate all aspects of the examinations conducted in the department. The responsibility of the DEC is to ensure that all the continuous assessment and laboratory assessments required for the respective courses in the B.Tech program are being properly executed.

STRUCTURE

The department examination cell is set up with the following members:

Head of the Department	Committee Chair
Faculty Member 1	Coordinator – DEC
Faculty Member 2	Member – DEC

DUTIES AND RESPONSIBILITIES

The following are the primary responsibilities of the DEC:

1. Prepare and send the subject registration and galley of the students with subject wise registration to the main exam cell in the first two weeks after commencement of the course instruction
2. Get the subject and quiz question banks for all the courses from the respective teams (approver, reviewer and framer)
3. Test the received question bank with the server and send them to main exam cell
4. Prepare the list of rooms, seating plan and signature sheets i.e. automated Google sheet, upon receiving the examination schedules for Mid and On – line Quiz exams from central examination cell



5. Keep the schedules in notice board and share the same information through WhatsApp also
6. Print the signatures sheets from the automated Google sheet and arrange the answer booklets along with them as per the seating plan
7. Prepare the list of invigilators and coordinate smooth conduction of exams
8. On the day of examination generate the question paper from the server and get printout for the distribution to the respective rooms
9. Collect the list of absentees from the respective rooms and prepare the D forms from the automated Google sheet so as to dispatch the answer scripts to the course coordinators
10. Distribute answer scripts to teachers for correction and collect back along with award list through automated Google sheet
11. Consolidate award lists using Google sheet for MID exams and send to college exam cell as per their format for uploading to exam cell server
12. Prepare the list of students whose performance is not up to the minimum mark
13. Keep the notification and schedules in notice board and share the same information through WhatsApp also
14. Collect the semester exam applications from the student's end and submit them to central examination cell
15. Prepare the list of rooms and share the same to main exam cell upon receiving the semester end examination schedules from central examination cell
16. Prepare the list of invigilators and coordinate smooth conduction of semester end exams
17. Send the Data books/supplement material to the main exam cell during semester end examinations
18. Send the semester end examination question papers to the respective chief valuers upon their appointment and get back the scheme of evaluation to send them to main exam cell
19. Prepare and coordinate the list of scrutinizers to the central examination cell after receiving the requirement from their end
20. Prepare schedules for external laboratory examinations including examiners list
21. Coordinate conduction of the above exams and ensure that scripts and award lists are submitted to college exam cell
22. Compile results of Semester end exams and prepare result analysis



OPERATING PROCEDURE

- The DEC collect the list of students enrolled, prepare and send the subject registration and galley of the students with subject wise registration to the main exam cell in the first two weeks after commencement of the course instruction

<https://docs.google.com/spreadsheets/d/1AZeCnTwerX5RS8XZupGOWT1JT3prEya/edit?usp=sharing&ouid=104217050365219734549&rtfpof=true&sd=true>

- The DEC sends a request to the administrative office for the stationary required for the conduct. of internal examinations for the academic year

https://docs.google.com/document/d/1DHQPORR7sr1J8OAKmH98gSRki32rWC6X/edit?usp=share_link&ouid=104217050365219734549&rtfpof=true&sd=true

- The DEC Prepare the list of rooms, seating plan and signature sheets i.e. automated Google sheet, upon receiving the examination schedules for Mid and On - line Quiz exams from central examination cell

https://docs.google.com/spreadsheets/d/1vPuHncxPcpAxCIdfA0nG2MX10gG9JPx2x_Llp9_0LNzM/edit?usp=sharing

- The DEC sends a request for subject and quiz question banks for all the courses from the respective teams (approver, reviewer and framer)

<https://docs.google.com/document/d/18LY9yUGAkwm9LkzIVOp5evrFvCGS58yy/edit?usp=sharing&ouid=104217050365219734549&rtfpof=true&sd=true>

- Prepares list of invigilators and circulates to all invigilators

https://docs.google.com/spreadsheets/d/1alDPCKLZYJ2u8CJJPTXwzGpyhDPh6_xtjepANW_TiSQU/edit?usp=sharing

- The DEC Print the signatures sheets from the automated Google sheet and arrange the answer booklets along with them as per the seating plan and is issued to the invigilator and collected back from the invigilator after completion of examination

https://docs.google.com/spreadsheets/d/1alDPCKLZYJ2u8CJJPTXwzGpyhDPh6_xtjepANW_TiSQU/edit?usp=sharing

- The list of absentees is prepared and the answer scripts are distributed to the concerned teachers for evaluation and collected back from them along with the award lists

https://docs.google.com/spreadsheets/d/1alDPCKLZYJ2u8CJJPTXwzGpyhDPh6_xtjepANW_TiSQU/edit?usp=sharing

https://docs.google.com/spreadsheets/d/1Hvb5pWZfisePTARe6IBYDK5d_Fv96nHSfqdZii_gN3D4/edit?usp=sharing

- The award lists are consolidated for the MID examinations for all subjects and sent to the college exam cell for uploading to the website. Simultaneously, the overall results of the students in the internal exam are compiled.

https://docs.google.com/spreadsheets/d/1s6BcVoD_c7x66shiyxxeqrewKGhPcU6gxnnZzP_ltoWs/edit?usp=sharing



- The performance analysis of the students in the Mid and On-line exams in individual subjects is computed and prepares the list of students whose performance is not up to the minimum mark and recorded
https://docs.google.com/spreadsheets/d/1s6BcVoD_c7x66shiyxxeqrewKGbFcU6gxnnZzP1t0ws/edit?usp=sharing
<https://docs.google.com/document/d/1M810PfzCdQMy6NVAfpR0-8hvmSkueC9w/edit?usp=sharing&ouid=104217050365219734549&rtopof=true&sd=true>
- The DEC prepares the consolidated or final internal marks for individual subjects and laboratory for the students at the end of year/semester
https://docs.google.com/spreadsheets/d/1s6BcVoD_c7x66shiyxxeqrewKGbFcU6gxnnZzP1t0ws/edit?usp=sharing
- At the end of year / semester, the schedules for Semester end External Laboratory examinations is prepared including the examiners list
https://docs.google.com/spreadsheets/d/1lmcUDAA6lRIGEBV95eE5E_Yche_c5mG0/edit?usp=sharing&ouid=104217050365219734549&rtopof=true&sd=true
<https://docs.google.com/spreadsheets/d/1RnKt4q5i6lhVY4Bn5IcC5LeHT7B2bYwlich2x2dJkIw/edit?usp=sharing>
- The results of the students is collected from the college exam cell and the consolidated award list for the students is prepared
https://docs.google.com/spreadsheets/d/1l7LjC7CqyhyFizZnd1Zl_DIRQnaUEzVyRlbLt0EG3C4/edit?usp=sharing
- The performance analysis of the students in the semester end exams
https://docs.google.com/spreadsheets/d/1l7LjC7CqyhyFizZnd1Zl_DIRQnaUEzVyRlbLt0EG3C4/edit?usp=sharing
- Data is collected from the college exam cell and a report is prepare on the number of students who have obtained their degrees

Such an approach will make it clear for all staff members at MVGR as to the activities they need to carry out and also for the administration to monitor the effectiveness of the execution. A well-planned MIS will ensure data capture and help the teacher eliminate all non-value added activities.

5.3 Curriculum and Content Development

In order for MVGR to integrate the spirit of cooperative education exercising full academic and administrative autonomy to become the sought-after institution in the country that produces graduates technically and managerially capable of taking over the role of a seasoned engineer in the industry, the following strategic initiatives need to be taken up by the teachers after extensive leadership training as described in sub-section 5.1:

1. Build a strong leadership teams at department level (technology groups) with a clear roadmap

2. Build the right academic administration framework at department level
3. Deploy a comprehensive MIS to automate all routine information capture
4. Train and deploy intermediate leadership to drive curriculum design and deployment
5. Train and deploy faculty members extensively on curriculum design through small group activity
6. Faculty should network with industry to define clearly the needs of the industry
7. Build strong connectivity with alumni to invite participation in curriculum design
8. Design the academic programs to ensure that these needs are met
9. Create vibrant student learning environment that fosters self-engagement
10. Build a strong academic audit team for independent and critical assessment

6. ACADEMIC ADMINISTRATION FRAMEWORK

In the light of the above world scenario and given the vision of MVGR, the entire academic administration framework needs to be carefully refined so that the goals are addressed in a systematic and holistic way through all aspects of pedagogy and student engagement. The curricular framework, list of courses, learning concepts, content design and student engagement activities, all need to be strategically planned and synergized to achieve this end in the light of the spirit of cooperative education and building a class of graduates that are ready to enter the industry as highly experienced employees. This calls for a major restructuring effort beginning with the administrative system required for academic design and delivery. In keeping with the above requirement, the current academic administration structure of the institution need to be modified to that illustrated in figure 3.

Academic administration involves execution of the following major responsibilities:

1. Formulation of Vision, Mission and Objectives of the institution
2. Formulation of strategic plan and targets
3. Formulation of institute operating procedure
4. Curriculum design
5. Curriculum implementation process definition
6. Monitoring of student attainment including placement
7. Feedback and process improvement
8. Faculty development (academics, R&D, industry networking)
9. Revision of curriculum (student engagement, student assessment)
10. Revision of operating procedure
11. Documentation and information management system
12. Best practices design and implementation



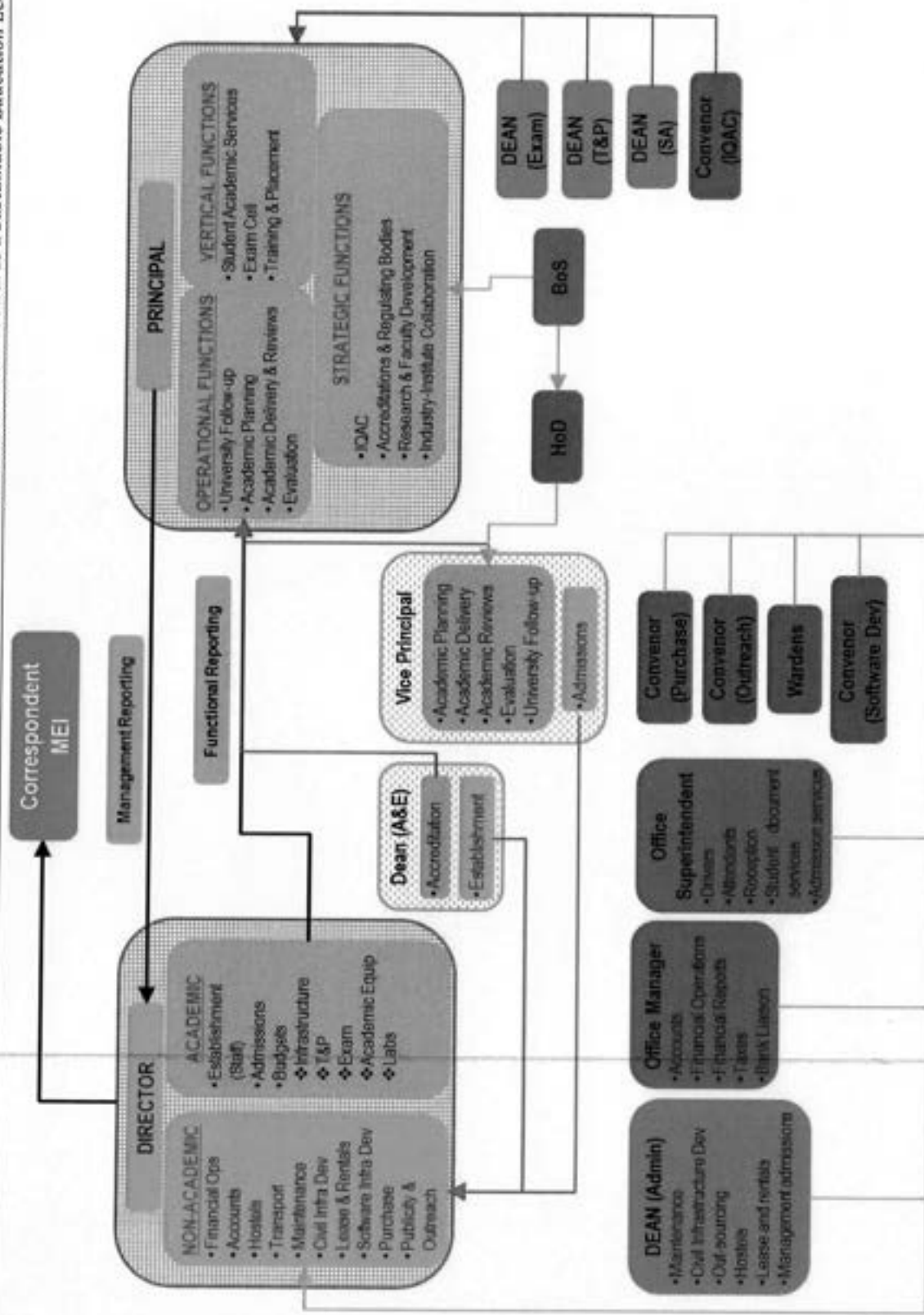


Figure 3: Modified MVGR Academic Administration Structure



In order to effectively execute the above, the Academic Administration Team (AAT) comprising the following members will take overall responsibility for the above activities:

- | | |
|---|-------------------------------|
| a) Principal | Chairman of AAT |
| b) Vice Principal (Academics) | Member |
| c) Dean (Accreditation & Establishment) | Member |
| d) Other faculty members | Invited/Co-opted as necessary |
- All faculty members of the department will be individually accountable for their respective roles and responsibilities within the institution
 - The HoD or the BoS Chairman will serve to coordinate their respective activities with the faculty members of the department
 - The AAT will meet with their respective group coordinators (HoD/BoS Chairman) on a weekly basis to review progress of their respective field of activity
 - The members of the AAT will meet among themselves initially on a weekly basis (later on: bi-weekly/monthly basis) to discuss collectively on all aspects of academic planning and execution
 - The members of the AAT will arrive at a collective decision with regard to academic planning as well as department operation and the same will be disseminated to the department faculty members through the respective coordinators namely the HoD and the BoS Chairman
 - The HoD and BoS Chairman will report progress of their respective areas of activity to the AAT on a weekly/bi-weekly basis for monitoring and course correction
 - The AAT, along with the Director, will review progress on a monthly basis for change/improvement in overall strategic plan and major course correction

6.1 Responsibilities of Members

The following will be the specific areas of responsibility of the above members:

Principal (with inputs from Director)

1. Formulation of academic Vision, Mission and Objectives of the institution
2. Formulation of academic strategic plan and targets
3. Formulation of institute academic operating procedure
4. Strategic planning of institutional academic infrastructure development
5. Formulation of curriculum design process and auditing the same
6. Formulation of examination system
7. Academic calendar and process implementation monitoring
8. Revision of operating procedure
9. Best practices design and implementation



Vice Principal (Academics)

1. Curriculum design (theory, laboratory and projects)
2. Curriculum implementation process execution
3. Design of add-on programs and vocational training programs
4. Departmental academic infrastructure requirement planning
5. Monitoring of student attainment
6. Feedback from alumni
7. Process improvement based on feedback and attainment
8. Revision of curriculum (student engagement, student assessment)
9. Time tables
10. Monitoring implementation of operating procedure
11. Outcome attainment evaluation
12. Student development

Dean (Accreditation & Establishment)

1. Carry out training need analysis (TNA)
2. Review suitability of training programs planned by faculty members
3. Network with industry and institutions of eminence for collaborative training and development
4. Review outcomes of training
5. Coordinate curriculum/content improvement based on training received by faculty members
6. Coordinate development of e-content, online courses and additional learning material by faculty members
7. Review of research areas pursued by faculty members and coordinate integration of research and academics
8. Review of socially relevant projects, mini and final year projects for strategic efforts towards attainment of SDGs
9. Documentation and information management system
10. Visionary direction of IIC towards creation of start-ups and meeting SDGs

The HoD and the Board of Studies Chairman shall operate as two parallel arms of the department to coordinate the activities of department operation and academic planning respectively.

Responsibilities of HoD

The Head of the Department will serve as a coordinator for all the operational activities of the department. The data generated at the department level will be periodically uploaded to the central server so as to be accessible by all relevant personnel. The following are the activities that need to be coordinated at the department level:

1. Monitoring implementation of operating procedure
2. Monitoring of curriculum delivery (classroom, laboratory and projects)

3. Monitoring of add-on program and vocational training program execution
4. Monitoring of examination conduct
5. Monitoring of evaluation and results declaration
6. Training and placement activities
7. Outcome attainment through placement
8. Collection of feedback from students
9. Collection of feedback from employers
10. Collection of feedback from parents
11. Student academic counselling and parent interaction

Responsibilities of Chairman, Board of Studies

The Board of Studies Chairman will serve as a coordinator for all the operational activities of the department. The data generated at the department level will be periodically uploaded to the central server, after it is ratified by the Board of Studies, so as to be accessible by all relevant personnel. The following are the activities that need to be coordinated at the department level:

1. Curriculum design (theory, laboratory and projects)
2. Curriculum implementation process definition
3. Design of add-on programs and vocational training programs
4. Departmental academic infrastructure requirement planning
5. Monitoring of student attainment
6. Feedback from alumni
7. Process improvement based on feedback and attainment
8. Revision of curriculum (student engagement, student assessment)
9. Faculty development (academics, R&D, industry networking)
10. Documentation and information management system

Responsibilities of a Faculty Member

Every faculty member in the department will be required to spend a minimum number of hours in shouldering the administrative activities of the department (as assigned to him/her) along with the prescribed academic load. In addition, the faculty member will also be required to spend a minimum number of hours in curriculum and course design. The following are the responsibilities of a faculty member irrespective of cadre:

1. Direct teaching (inclusive of preparation for classwork, laboratory work, records/assignment evaluation and projects)
2. Answer script evaluation (MID exam and End exam)
3. Curriculum design (inclusive of material development and question bank preparation)
4. R&D (inclusive of funded projects, publication, consultancy and PhD guidance)
5. Faculty development (inclusive of advanced pre-training for enhancement of curriculum design, guest lectures, invitation as external resource person)



6. Student interaction (inclusive of academic counselling, industrial visits, co-curricular and extra-curricular activities)
7. Administrative activities (inclusive of interaction with parents, alumni and industry, assigned departmental administration role)

Given that the institution works 7 hours a day for 6 days a week, a faculty member is expected to spend 54 hours in total of which 42 hours shall be at the institution in a defined/semi-defined role as well as an additional 12 hours being for course preparation and self-engagement as shown in Table 2 below:

Table 2: Faculty Time Distribution

Sl	ACTIVITY	Max. Time %	ASTP	ASCP /PROF	Remarks
1	Direct Teaching (DRT)	22	12	12	2T, 1L
2	Preparation for Teaching (PRT)	11	06	06	2T (At home)
3	Answer Script Evaluation (ASE)	01	0.5	0.5	Averaged over the semester
4	Curriculum Design (CRD)	22	12	12	Curriculum design reviews, Question bank, Assessment approach reviews
5	Content Development (COD)	11	06	06	Content design, Student engagement material development, case studies
6	Faculty Development (FAD)	11	06	06	MOOC, Project proposal preparation, paper publication, research/consultancy (At home)
7	Research and Development (RND)	5.5	03	03	Experimentation, Product development, Testing, Innovation, Entrepreneurship
8	Student Interaction (STI)	5.5	03	03	Academic counselling, generic rubric assessment
9	Administrative Activities (ADM)	5.5	2.5	2.5	Data update
	Slack (SLK)	5.5	03	03	Lunch or break
TOTAL		100	54	54	

The direct teaching workload, curriculum design domain and administrative activities shall be defined well in advance before the beginning of the academic year in order for the faculty member to plan effectively their execution according to the available time in the ratio as given in the pie chart (figure 4 below).

Each faculty member shall maintain a daily log of time spent on the above activities for their record and self-improvement as per the faculty self-regulation sheet shown in Table 3 below:

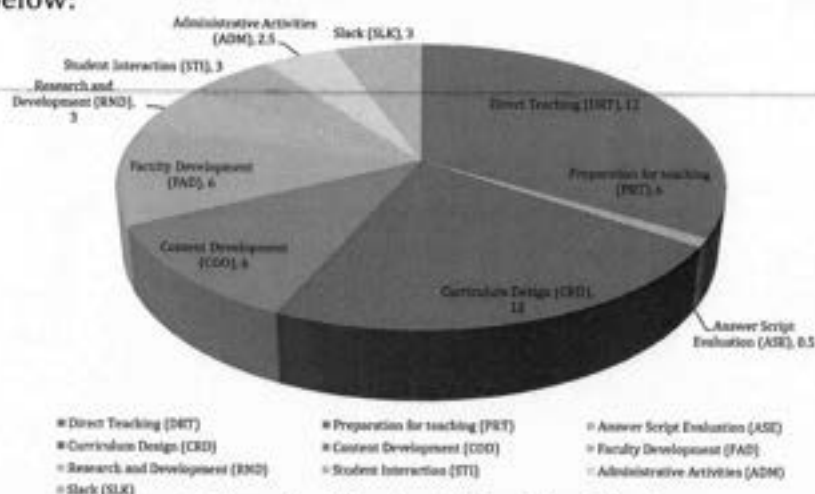


Table 3: Faculty Self-regulation Sheet

DAY	ACTIVITY										Work	TOTAL	Remarks
	1	2	3	4	5	6	7	8	9	SLK			
MON											DRT		
TUE											PRT		
WED											ASE		
THU											CRD		
FRI											COD		
SAT											FAD		
											RND		
											STI		
											ADM		
											SLK		
											Total		

The above sheet will help all faculty members identify areas of activity where time is being spent. The same can be improved upon or systems developed to make faculty time spent more meaningful and productive to themselves as well as the institution. Faculty members shall be accountable for the amount of time required to be spent on direct teaching and curriculum design as given above.

6.2 Implementing the Academic Administration Model

In keeping with the spirit of the two-pronged academic administration model described above, careful planning has to be done to build and implement a student-centric learning environment. For this to happen, teachers have to be empowered through autonomy as well as guided, motivated and prepared to take on the full responsibility of achieving V2030. Basically, this transfers onto the teachers the full empowerment and responsibility to achieve V2030 with the academic administration facilitating the mission and being accountable to the teachers to provide and support the needful. Achieving V2030 will only be possible with the full and enthusiastic cooperation of the teachers. The role of the academic administration will therefore be to give top priority to their needs in this regard and free them up from all other burdens so they can focus exclusively on V2030. Currently, a lot a time of the teachers is lost in them being accountable for a multitude of tasks with very little autonomy and effort towards curriculum development being exercised by them. The teachers deliver whatever they believe needs to be taught by them in standard ways repeated over the years with very little student engagement or actual absorption and totally distanced from the idea of cooperative education and education for sustainable development elaborated earlier. The current model is more student-centric in 'administration' and faculty-centric in 'learning'. The reverse needs to be implemented: careful faculty-centric academic administration so that they can create the best student-centric learning environment and engagement. This will undoubtedly ensure that a sustainable educational environment is built that increasingly achieves better outcomes and also ensures that more talented pool of students join the institution over the years.



7. CONCLUSION

Given the challenges of the new world order and the strong thrust towards quality education envisioned by NEP2020, it is absolutely imperative for MVGR to completely scale up the quality and diversity of education offered through its various undergraduate and graduate programs. With its vast legacy, MVGR, as a constituent college of MANSAS Trust, has all the foundation and vision needed to become a world-class institution. Adopting a two-pronged academic administration model as described above will give the necessary thrust to the vision and ensure transformation of the institution both from an organisational as well as curricular perspective. One of the most widely discussed topics in academia is the industry-institute divide which, despite all the deliberations and collaborative activities, unfortunately still remains as wide as ever in the Indian context. It is sincerely hoped that V2030 will go a long way in bridging and closing this gap.

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MVGR VISION 2030: STRATEGIC PLAN

Significant transformation of academic design and administration needs to be carried out at MVGR in order to make it an institution of repute in the country. All academic and related activities need to be coordinated and delivered for holistic development of students. There are 7 key process areas (KPA) that form part of this. The groups that coordinate these activities are illustrated in figure 1:

1. Curriculum and content design and development (BoS Group)
2. Academic delivery and monitoring (HoD Group)
3. Examination and assessment of attainment (Exam Group)
4. Training and placement (T&P Group)
5. Student activities (Student Activities Group)
6. Process design and quality assurance (IQAC Group)
7. Research, consultancy and innovation (R&D Group)

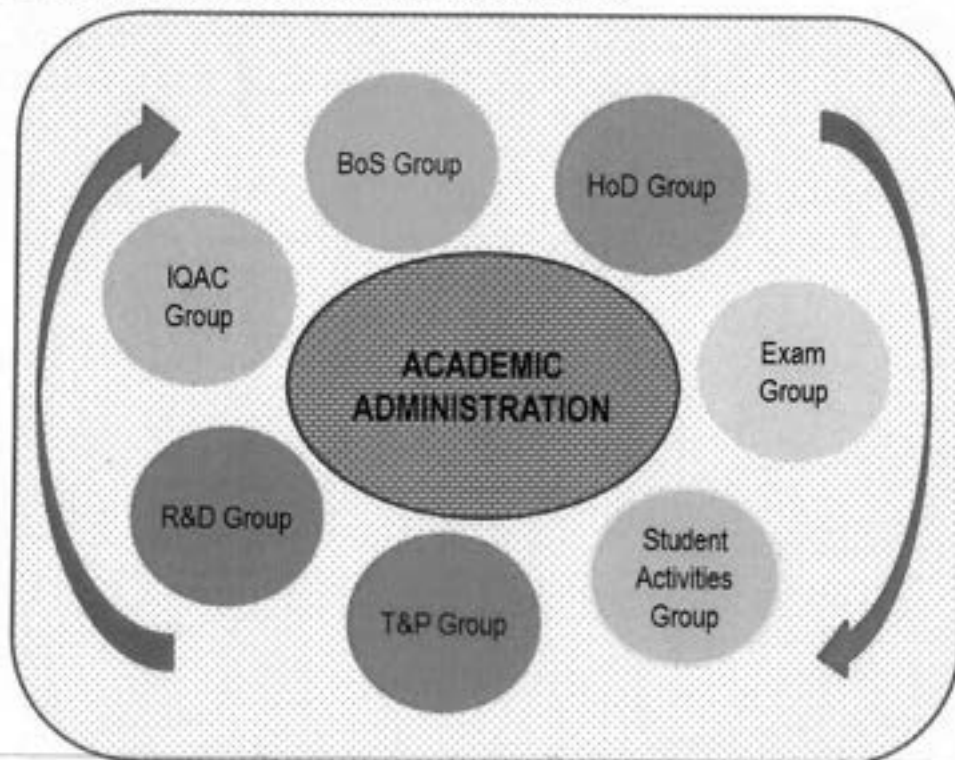


Figure 1: KPA Coordination Groups

I CREATING A COMMONLY SHARED VISION

The vision for MVGR has already been defined. All staff members need to be in full consonance with it and be able to relate to the vision according to their position and situation. This will require the following:

1. Identifying the right people at mid-level leadership positions in the 7 KPAs
2. Team building and vision sharing with the mid-level team



3. Mid-level team working with faculty members on the ground to ensure dissemination and implementation

II ROLE OF THE GROUPS

To ensure synergy between the functioning of these groups, it is important to define clearly the roles of each of these groups.

1. BoS Group:

This group is responsible for carrying out a comprehensive study of the vision of the department in line with the institute's vision. Based on the vision, the group members shall, in coordination with the rest of the faculty members in their respective departments, identify the outcomes of programs offered by them (POs). Once the POs and their relevance are clearly defined, the learning outcome, pedagogical approach, student engagement, evaluation methodology and allied activities needed (co-curricular and extra-curricular) need to be defined and integrated. The BoS coordinators will work with their respective heads of department to implement the curriculum and identify improvements.

2. HoD Group:

This group is responsible for ensuring that the vision of the institution is achieved through the respective programs. The individual heads shall monitor the functioning of the department, identify challenges/bottlenecks and plan contingency steps. The heads shall monitor attainment of outcomes and identify lacunae or deviations in the functioning of the departments. This group shall also coordinate all research, development, consultancy and innovation activities in pursuance of the vision of the respective departments.

3. Exam Group:

This group is responsible for coordinating the conduct of all evaluation procedures at the respective departments and coordinated centrally. This group will also develop all necessary data capturing templates that will make it easy for the HoD group to analyse the performance of their respective students.

4. T&P Group:

This group is responsible for all outreach activities with regard to industries in their respective sectors. The members shall, along with regular T&P activities, identify key personnel in their respective sector industries and facilitate connecting them to the faculty members of those departments. The faculty members can then build a long-term relationship with these industry personnel that can facilitate direct placements in the future.

5. Student Activities Group:

This group is responsible for building inter-disciplinary professional student activity centres (clubs or student chapters) that will help students to build additional skills through well-planned, co-curricular and extra-curricular activities. These activities should complement student learning and facilitate holistic career building.



6. **IQAC:**

This group is responsible for defining the standard operating procedure for all academic activities in the institution through clear-cut process design. This group will also conduct periodic audit and update (as needed) of the process. The IQAC group will coordinate the compilation of all NBA/NAAC related documentation in line with and in full readiness for any visits of the regulating bodies.

7. **R&D Group:**

This group is responsible for coordinating all the research, consultancy and innovation activities of the college including keeping track of funded projects, seminars and faculty development programs, collaborative research (national and international), quality publications, APSSDC training centre, MSME business incubator and IIC. Although research and innovation activities will be individual-centric, this group will serve to coordinate and keep track of progress in this direction.

III GROUP ACTIVITIES

The activities of each of these groups need to be strategically planned as well as coordinated across the groups in order to deliver a holistic learning environment for the students. This will also help create a faculty-centric administration approach so that each faculty member can go deep into planning his/her course offerings while seamlessly integrating those with the needs of other courses and programs. The following are the activities that will have to be carried out at the group level:

1. **BoS Group:**

- Team building among BoS members for synergy of thought and action
- Networking with industry to identify experts to support curriculum design
- BoS members to plan and schedule regular discussions with small groups at department level
- Dissemination of curriculum design ideology and process
- Compilation of program and course outcomes
- Coordinating review of draft curricula and finalisation
- Review of practice gaps and draft modifications to be implemented in next curriculum framework

2. **HoD Group:**

- Vision building for the department
- Team building with HoDs for synergy of thought and action
- Evaluation of SOP, modifications and implementation
- Monitoring of classwork and effectiveness of delivery
- Monitoring of student self-engagement
- Analysing outcome attainment



3. Exam Group:

- Vision building for effective assessment
- Redefinition of evaluation system and SOP development
- Defining templates for assessment of attainment
- Evaluation of outcome attainment

4. Student Activities Group:

- Vision building for integrated student development through additional activities
- Team building for synergy of thought and action
- Defining student activity groups and objectives
- Coordinating with T&P group to address training needs
- Streamlining student activities ensuring no overlap or academic disruption
- Coordinating outreach activities (through NSS)
- Coordinating student co-curricular and extra-curricular activities
- Coordinating innovation and entrepreneurial activities

5. T&P Group:

- Vision building for effective student placements
- Networking with industry for serious connect
- Training need analysis of student groups
- Coordinating with student activities group for addressing training needs
- Building effective interview skills for students

6. R&D Group:

- Defining targets to move into NIRF, ARIIA ranking
- Coordinating funded projects and collaborative research
- Coordinating seminars and faculty development programs
- Coordinating activities of IIC
- Coordinating review of MSME BI proposals
- Coordinating APSSDC activities
- Coordinating data collection and compilation

7. IQAC:

- Defining standard operating procedure
- Establishing management information system to include automatic reportage of NBA/NAAC data
- Documenting annual institution plan
- Periodic audit of department operations
- Gap analysis and revision of operating procedure



IV ACTION PLAN

The following is the action plan that needs to be executed in order to realise V2030. The same is illustrated in the activity chart in figure 2.

1. Revision of salary structure to promote faculty-centric administration
2. Separation of administration and strategic planning roles (college and department levels)
3. Re-designation of faculty members based on experience
4. Identifying the right leadership team
5. Team building and vision sharing
6. Mid-level team working in small groups
7. Defining graduate attributes in relation to the vision
8. Defining POs and Cos to achieve vision
9. Preparation of draft curriculum
10. Gap analysis and finalisation of curriculum
11. Definition of standard operating procedure and finalisation
12. Implementation of management information system
13. Gap analysis and definition of attainment assessment model
14. Gap analysis for qualification in ranking frameworks
15. Planning of student group activities to complement curriculum
16. Finalisation of assessment methodology
17. Finalisation of the curriculum
18. Faculty training and student self-engagement planning/development for I year courses
19. Faculty training and student self-engagement planning/development for II-IV year courses
20. Implementation of V2030
21. Evaluate the attainment of V2030 based on exit performance of first batch
22. Carry out gap analysis and action plan for course correction
23. Evaluate the attainment of V2030 based on exit performance of third batch



