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# REPORT AND RECOMMENDATIONS ON CBCS AND CFSD

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## REPORT ON IMPLEMENTATION OF CBCS AND CFSD IN HIGHER EDUCATION INSTITUTIONS OF TELANGANA STATE

### 1.1.0 BACKGROUND:

Education is vital for India's competitiveness, productivity, economic growth, and social stability. Therefore every aspect of higher education is being evaluated, reorganized and remodeled to cover qualitative inclusive expansion such as accreditation, access, equity, funding, curricula, faculty, leadership, governance, infrastructure, excellence, values, linkages with industry, international collaboration and the way teaching and research are conducted.

The Higher Education in India is one of the largest operating systems in the country and the absence of a comprehensive national framework for facilitating proper recognition of the academic programs offered by the different higher education providers posing a challenge to the nation in the context of universalization.

Until 1990 the mechanism of recognition of qualifications are in sync with global practices. However 1990 onwards most countries of the world have adopted a more structured approach for recognition of qualifications that are globally compatible, as global mobility of student is increasingly gaining importance. The issues of equivalence of degrees and qualifications offered by various universities is increasingly becoming complex requiring a comprehensive and holistic solution. The UNESCO and WTO framework directed the all the universities of the member countries, regarding the need to recognize the degree and qualification offered by universities of other member countries. Many countries worldwide are in the process of introducing qualification frameworks, although the framework is similar, the objectives vary considerably. The objectives of various programs includes; emphasis on increasing relevance of learning outcome, flexibility of education and training programs offered, easing recognition of prior learning, enhancing life-long learning, improving transparency of qualification systems creating possibilities for credit acceptance, accumulation and transfer or developing a quality assurance system to evaluate equivalence of qualifications and designing degree programs for international mobility. Qualification framework is a major policy tool used by various governments to achieve reforms. Twenty five years of reforms initiatives in the academic arena of higher education have not achieved the objective of simplifying the higher education system. The difference in reforms adopted by various governments, led to incompatibility of higher educational qualification parity, not only internationally but also within the country.

Higher education was increasingly perceived as an empowering tool for students and also as a means of overcoming inequalities in social hierarchy and cultural prejudices. Democratic society indulges in liberal inquiry and debate on diverse issues to accommodate contending ideologies and viewpoints. Further such an endeavor will also serve as a source of knowledge and skills resulting in creative innovation, reflecting contemporary social and personal needs. This may be achieved by adopting interdisciplinary approach for knowledge creation and universalization, by offering courses under cafeteria approach in tune with job market dynamics. India has a great opportunity to meet future demands of the world, providing skilled workforce. It is essential to optimize GDP contribution from various sectors as disparity in employment rate and GDP contribution is widening eg. 59% employment against 20.8% of GDP from agriculture, 17.2% employment against 22% of GDP from manufacturing and 23.8% of employment against 57.2% of GDP from service sector. It is essential to increase productivity resulting in socioeconomic development, by adopting skill development programs across various sectors. It is essential to develop skilled workforce through designing new courses under CFSD or Credit Framework for

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Skill Based Vocational Courses (CFSBVC) scheme to achieve maximum productivity in various sectors that together will contribute to Nation's growth.

The demand for socially relevant, economically productive, globally competitive, culturally sustaining and individually satisfying programs in higher education system is a fast growing one, adapting to changing needs and demands of the community. It is essential in the present scenario to develop a Choice-Based Credit System (CBCS) in tune with global trends as also the adoption of a sound grading system for accurate reflection of learners' performance which should be recognized and accepted universally for expanding opportunities for pursuing further education and employment. Therefore policy formulation and clear implementation guidelines are necessary to ensure the learner's autonomy for choice, flexibility and mobility.

### **1.2.0 RATIONALE:**

The Universities and Institutions need to attract talent to achieve excellence, while progressing through innovation. The strength of the university system lies in cooperation and collaboration of stakeholders, which can amplify the capabilities and capacities in many ways with moderate resources of infrastructure and support services.

The Universities known as Temples of Learning need to transform into centers of human excellence, by adapting to changing global demands.

The edifying process of knowledge acquisition or attaining the education in the course of instruction is to be delivered in three important learning modes:

1. Provision of information, 2. Facilitation of interaction and 3. Tradition of involvement;

The information and communication technology (ICT) revolution resulted in provision of information across the web and growth of social network sites resulted in facilitation of interaction among various stakeholders, however the tradition of involvement requires institutional environment. Institutions facilitate rational thinking, decision making, problem solving among students and teachers unlike the web and social networks, which are virtual. Further Institutions enables in acquisition of tacit knowledge through observation, imitation, exercise and training with practical experience in the relevant context. The knowledge creation, dissemination and application from institutional processes, which enables lifelong learning activity through experience and experimentation, and prepares an individual to face the challenges of 21st century. These Institutional processes should be accessible, affordable, available and administration to ensure universal education.

A differentiated three-tiered university system – where each tier has a distinct strategic objective – has enabled universities to build on their strengths and cater across different categories of educational needs.

The higher education is normally classified as follows:

1. General Education – Intellectual Growth Areas
2. Professional Education – High End Specialized Areas
3. Technical Education – Competence Oriented Areas

However a fourth dimension is being added to above educational system is

4. Vocational Education – Career Based / Skill Oriented Areas

Where the vocational component is incorporated in identified specific sectors to impart explicit training for specialized needs of employment and or entrepreneurship.

All the classified categories of higher education (UG/PG) require basic skills of communication,

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arithmetic, accountancy, and computer applications needed for various job roles. Further they also need to rise into research based education through creativity, innovation and entrepreneurship. The basic education play field should be flat so as to be accessible to everyone with seamless choice and option for credit recognition, flexibility, transfer, and equivalence, while enabling the student for a vertical growth in academic terms.

The General Education provide an excellent foundation for successful knowledge based careers, often fails to equip graduates with necessary work skills due to its poor quality induction. Further a plethora of multiple regulators for higher education system has resulted in a structure that is over regulated and under governed. Skills development is an area that spans across all sectors of the economy. Current studies indicate that net enrolment in vocational courses in India is about 5.5 million per year compared to 90 million in China and 11.3 million in the United States. 93% of labor force in India is untouched with any formal training, whereas 96% Koreans, 80% Japanese, 75% Germans and 68% Britishers receive formal skills training.

### **1.3.0 PREAMBLE:**

The strength of a country's economy is inextricably linked to the strength of its education system. Therefore it should meet with international standards by training its workforce to become skilled, adaptable, creative and equipped to compete in the marketplace. Most contemporary higher learning systems are more or less disconnected with the essential requirements of the workplace needs, therefore it is necessary to devise an educational system that ensures better livelihood with income assurance. The traditional higher education system in the country is rigid in terms of duration of courses, Teaching-Learning timings, Place of study and Choice of subjects.

The National Knowledge Commission (NKC) and University Grants Commission (UGC) as well as Association of Indian Universities (AIU) directed the Central and State Universities and other Institutions of Higher Learning to carry out 'Academic Reforms' in order to mitigate the variances arising due to differences in recognition and equivalence of qualifications and degrees. To equalize the curricular aspects and its certification process due to massification, it is being recommended to transform the existing system of models by means of uniformity and aiming towards universalization of Higher Education system to meet global standards. The UNESCO encouraged academic mobility of students for better understanding of society in terms of cultural values and language perspective, as well as to improve the individual's career prospects through academic enrichment. The recognition of qualifications is an essential precondition for both academic and professional mobility, as well as for building knowledge based societies;

The current model of higher education in India, is largely campus-based, limited in its range of learning, and essentially attempts to comply with the needs of the world, it has the potential to become a leading nation in many areas of development when learning outcomes are recognized independently from its learning paths.

- To bring about a change in the restrictive character of higher education and meet the ever-increasing demands of society and society recognizes teacher as a learned person to be part of change, hence need to evolve and adopt innovative ways of teaching and learning.
- To respond to the challenges and opportunities of globalization and to facilitate the recognition of qualifications and transparent arrangements for quality assurance.
- To continually improve the quality of higher education, encourage the advancement of knowledge for optimal use of human potential.

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- To make the education process more learner centric by adopting formal and non-formal mode of learning process in creating added interest, motivation and pleasure, which may provide moral and material improvement.

With UNESCO's sustained engagement in Higher Education led for organization of six regional conventions to harmonize common rules for the mutual recognition of degrees and qualifications among member countries. Starting with the regional convention on the recognition of studies, diplomas and degrees in higher education in Latin America and the Caribbean (June 1974). This was followed over the next ten years by five similar conventions covering all regions of the world, which includes the Mediterranean (1976), the Arab Nations (1978), Europe (1979), Africa (1981), Asia and the Pacific (1983). However the subsequent Lisbon Recognition Convention (1997) marked a shift of focus of recognition issues from technical to policy level and put forward basic principles that gave bigger rights to applicants. UNESCO continues to use its convening power to promote sustainable change for quality higher education, which represent a unique legal framework that has some ratifications from 116 Member States of UNESCO for which India is the signatory. These Conventions are the only legally binding instruments in higher education.

The UNESCO's various initiatives has always been a priority towards standard-setting, facilitating academic mobility and promoting mutual recognition of qualifications in higher education. The various measures were evolved from Asia-Pacific Convention (1983) in the context of comparison with Lisbon Recognition Convention (1997) to ensure the adoption of following core elements.

- 1) Formulate National Qualifications Framework (NQF) – Yet to Formulate through National Higher Educational Qualifications Framework (NHEQF).
  - 2) Establish National Quality Assurance (NQA) mechanism – Established National Assessment Accreditation Council (NAAC) for Institutions and National Board of Accreditation (NBA) for Academic Programs.
  - 3) Launch National Information System (NIS) for reliable information about Institution, Programs, Faculty and Students – Launched through All India Survey on Higher Education (AISHE) in addition to regional networking with NIS platform.
  - 4) Develop a system for Vocational Education Qualification Framework (NVEQF) and also implementation different levels of certification (Certificate, Diploma, Advanced Diploma, and Degree) to supplement and incorporate Credit Framework – Developed National Skills Qualification Framework (NSQF).
  - 5) Create a system of recognition of Cross Border Education (CBE) - Yet to formalize the CBE
- India implemented only 2, 3 and 4 Core elements and others at initiation level.

In view of this, the MHRD envisioned to develop National Higher Education Qualification Framework (NHEQF) to provide a standardized norms at policy level in terms of minimum entry qualification, program durations, teaching-learning processes and learning outcome aimed at national and ultimately universal recognition of equivalence of not only the degrees but also the qualifications that will ensure seamless global mobility of students through credit acquisition, acceptability, accumulation, flexibility and transfer in accordance with the principles of Lisbon Recognition Convention (LRC). To build effective measures of quality the Choice Based Credit System (CBCS) is devised under 'Academic Reforms' by UGC. The CBCS envisages flexibility in course offerings with a more structured and holistic approach for a seamless recognition and equivalence of qualification and degrees awarded by the universities across the world in terms of comparability and equivalence of complete efforts and learning outcomes of students.

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The **National Assessment and Accreditation Council (NAAC)** provides additional weightage in accreditation process for institutions that have CBCS in place. Though Universities are autonomous in academic affairs and are free to determine and prescribe curricula for designing their academic programs, in accordance with the norms prescribed by UGC for nomenclature, particular degree, minimum entry qualification and duration of course/study for the recognition of their qualification / degrees. However the nation needs stringent quality sustenance measures for effective and easy monitoring of academic regulations, as the number, size and types of higher educational institutions are increasing in the country. Therefore CBCS enables us to determine the value of the qualifications and degree that permit hassle-free horizontal and vertical mobility of students for further higher education and employability across the country and the world.

Government of India proposed to integrate skill development in higher education system with flexible learning formats. This is reflected in its initiative to prepare a National Skills Qualifications Framework (NSQF) with the help of various Sector Skill Councils (SSCs) for developing Qualification Packs (QPs) and National Occupational Standards (NOSs) to devise assessment mechanisms in their respective domains, in alignment with the needs of the society for standardization and wider acceptance of the skill oriented courses.

"The National Skill Policy" which was announced in 2009 envisaged to develop Nationally Standardized, Acceptable and Internationally Comparable Skills Qualifications Framework with an objective of training 500 Million people by the end of 2022, out of which 50 Million will be trained by MHRD alone. Realizing the need to have a unified framework an Inter-Ministerial Committee was formed by the Cabinet Secretariat to use the work already done by two Ministries (MHRD and MLE&T) that developed NVEQF and NVQF has laid the foundation of NSQF. Subsequently the job was entrusted to the National Skill Development Agency (NSDA) to ensure the quality and standards that meet sector specific requirements to anchor and operationalize the NSQF. Accordingly the National Skill Development Council (NSDC) was mandated to develop skill among 150 Million people, by catalyzing creation of large, quality private vocational training institutions certified as Skill Knowledge Providers (SKP's) tied up with prospective employers across the country. The remaining were to be skilled through various initiatives by 19 Ministries under the Central Government. If a student pursuing three year degree course, for any reason, has to leave the course for good just before completing it, he has to go empty-handed. Further the courses available in the market are not credible or fully acceptable to the employers, therefore the government plans to regulate the skill development courses by evolving a NSQF.

The AICTE came out with a unified NSQF under the directions of Ministry of Finance, Government of India for a smooth transition of Skill Development Programs through Skills Assessment Matrix for Vocational Advancement of Youth (SAMVAY) to enable seamless integration of pursuit of academic knowledge and practical vocational skills through life-long learning processes and to provide a sound system of certification of vocational skill providers and assessment of skills acquired by students for multi-task professionalism/vocations.

A **National Skills Qualifications Framework** is a formal mechanism for recognizing award of 'Certificate' / 'Diploma' / 'Advanced Diploma' / Degree to the successful learners in skills education and general education components of the curriculum, within a transparent, coherent and flexible national qualifications system to ensure mobility of learners. It involves, inter alia, the establishment of a credit system to provide a common basis for describing and comparing awards and for establishing equivalences between them. As the objectives of these qualification Frameworks are being implemented, it should also be realized that there is a need to give further push to vocational education on an even larger scale.

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Given the present economy of the country where a large proportion of the workforce is either self-employed or employed in the informal sector, it is necessary to provide learning opportunities at any stage of life irrespective of qualification or background. This is true because much of important knowledge creation takes place outside the institution, the courses offered must be of learner centric rather than teacher centric. This calls for development of a flexible and open system of courses within the broad framework of higher education system of the country. There should be value added lifelong learning opportunities through multiple entry and exit options along with a choice of vertical mobility into higher education or horizontal mobility into employment sector that should remain open and rest entirely with the learner. Unless these features are incorporated into the existing structure of HES, it is not going to be relevant for the people, the economy and the society at large.

As a Policy Initiative of MHRD to make education relevant and to create 'industry fit' skilled workforce, the UGC has introduced two schemes known as Community Colleges (Job Oriented Diploma Programs) and B.Voc. Degree Program in Universities and Colleges during the XII Plan. However, there is a need for taking integrated initiatives towards knowledge acquisition and up-gradation of skilled human competencies in Universities and Colleges to address the emerging needs of the economy so as to ensure that the graduates have adequate knowledge and skills to get appropriately employed or become entrepreneurs and, thereby, meet the economic and industrial needs at the regional and national level, while meeting the universal standards for global placements through credit framework.

It is therefore proposed to establish as many as 100 'Deen Dayal Upadhyay Centres for **Knowledge Acquisition and Up-gradation of Skilled Human Abilities for Livelihood (KAUSHAL)**' during the XII Plan period. These Centres would take-up the vocational education to new levels and offer courses beyond B.Voc. Degree also. These Centres would also embed and follow the guiding principles of NSQF, Qualification Packs (QP's), and National Occupational Standards (NOS's) for their programs and would not focus on skilling alone but also develop entrepreneurship traits. The Centres may endeavor to maintain a pyramidal structure of student enrolment with respect to Diploma, Advanced Diploma, B.Voc. and further studies.

#### **1.4.0 SCOPE:**

The world is looking for trained and readily employable persons in all basic fields with sound knowledge base in their core discipline with abilities to adapt for new demands. There is an immediate need of skilled human resources with additional inputs of knowledge to take part in new economic revolution. The present market economy works on the principle of the division of labor, which also implies division of "knowledge". The generalist education need to be made career orientated so that rather than clamoring for administrative government jobs (which are in stagnation presently and bound to be expanded to a limited extent in future) the trained generalists would find more opening at the middle level skill demanding jobs. Education is identified as one among the 12 service sectors by World Trade Organization (WTO). Education will not enable global mobility of students unless the qualifications acquired by them are acceptable as per the universal norms. Further the new initiatives of 'Twinning' and 'Joint Degree' as well as 'Study Abroad' programs gaining increased momentum in several parts of the globe, the importance given to 'mobility of learners' and the need for offering flexible curricular choices to them, has now become part of 'Academic Reforms'. The better mobility and recognition of qualifications by employers and institutions is possible with the country's NHEQF, which provides

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a way to compare degrees and describe the relation between the different levels of a national educational system, including the total credits and learning outcomes of specific qualifications.

India to set about making gains from the seeming liability of its vast population, the demographic potential of its young population in the relevant age group must be tapped. An ecosystem must be created that enables the skilling and education of youth, and generates opportunities for self-employment/employment/entrepreneurship. Since the majority of our population still resides in rural areas the rural youth must constitute a vital part of the outreach of higher education.

India's Higher Education is a large and complex system comprising of 700 Universities and 35500 Colleges with a near enrollment of 30 million students against 150 million of targeted age group (18 – 23) in different fields of study including Arts (37%), Science (19%), Commerce & Management (18%), Engineering & Technology (16%) and Professional Courses (10%). Among these 86% are entering into UG courses, 12% entering into PG courses, and 1% each in Doctoral programs and Diploma courses. India is aiming to achieve 30% enrollment by 2020 at least to meet the World average. Further the country has also embarked on a mission for Vocational Education and Skill Development, involving a targeted 1600 new industrial training institutes (ITIs) and polytechnics, 10,000 new vocational schools and 50,000 new Skill Development Centres to develop employable skills among the 15 crore youth in the 18 – 23 age group in addition to the 5 crore to be graduated from higher education system in the country.

The Telangana State has 21 Universities offering courses in General, Professional, and Technical Education programs with varied specializations of diverse subjects and combinations. Among these 6 Universities are offering conventional courses with affiliation structure with a near total enrollment of 6 lakhs students. The state is having higher number of technical and professional institutions than degree colleges. The strength of the state is its intake capacity and quality outcome of professionals from these higher educational institutes.

Presently there are about 415,030 Students at + 2 level are qualified from 2977 institutions to enter into higher education system in the State from 10 Districts of Telangana consisting of 195 Government and Government Aided institutions offering courses to 150257 students in addition to 1600 private unaided institutions. There are about 52 Government and Government Aided Polytechnics in addition to 22 private unaided polytechnics and about 115 Engineering Colleges offering polytechnic programs under second shift with a total intake of 59540 students. There are 60 ITI's offering courses in 32 engineering and 10 non-engineering trades. There are 777 Junior Colleges are offering 29 vocational courses targeting around 30,284 students. In addition to this 27 skill development centers have been established in polytechnics to provide add on skills for employability. Further 3 model degree colleges were established in three districts of Telangana State under RUSA Scheme of MHRD, Government of India.

The Telangana State Government has conceptualized the most prestigious scheme of 'Mission on Quality Education' to provide KG to PG Free and Compulsory Education to increase the ratio of students from unserved and underserved areas with view to develop competitive and productive human resources that contributes for regional and national growth. Further it also envision for skilled man power development with sector specific training to meet the requirements of industry through Skill Development Centers at Polytechnics, Colleges and Universities in addition to Industrial Training Institutes and also takes the support of accredited private sector skill provider known as Skill Knowledge Provider (SKP). The State Government decided to establish **Telangana State Accelerated SSI Skills Training (T-ASSIST)** and **Telangana Academy of Skill and Knowledge (TASK)** to impart skills after and during the course of studies.



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The Telangana State Government recognizes the 14 industrial sectors as thrust areas, based on competitive advantage, geographical location, available resources and skill-base, raw material availability, existing manufacturing practices and expertise. Further the state has declared to develop six industrial corridor clusters all along the National Highways from the state capital Hyderabad in a phased manner based on its employment potential, economic viability and access to resources and also decided to develop incubation centers in Higher Education Institutes (HEI).

The private professional education aiding the affordable elite should serve the people of all backgrounds with a focus on provision of scholarships and other educational loan or supporting facilities for the students who deserve and desire to pursue higher education. However, the cause of concern is the quality of higher, professional and technical education provided in the state. Many of the graduates of the higher, technical and professional educational institutions in the state could not get placed in the job market. There is a mismatch between the type of skills that the industry demands and the type of skilled training that the higher educational institutions are imparting. Therefore there is a need for addressing this mismatch by streamlining the courses, curriculum and the content in consultation with the industry.

The existing higher education system in the state is plagued with many issues of quality and excellence the most important ones being are chronic shortage of faculty, poor quality teaching, outdated and rigid curricula, absence of pedagogy, lack of accountability and quality assurance, separation of research and teaching and absence of multi-task training.

In view of this the state has envisioned to create a conducive environment by instituting mechanisms, establishing procedures and benchmarking best practices to facilitate higher educational institutions to develop a pool of educated and skilled manpower that is competent to meet the all sectors of economy with expanding knowledge base driven by values for building a healthy, prosperous and harmonious society in a meaningful manner.

As per XI and XII Plan Strategic Approach on '**Academic and Administrative Reforms**' and 'Working Group of Planning Commission on Higher Education' spells about two important components to be addressed i.e. 'Demand side Interventions' and 'Supply side Initiatives' in order to keep the Indian Higher Education in sync with rest of the world in the context of transformation from Massification to Universalization. The 'Demand side Interventions' includes '**Access, Equity and Quality**', whereas the 'Supply side Initiatives' includes **Choice Based Credit System (CBCS)** and **Credit Framework for Skill Based Vocational Courses (CFSBVC)**, which mainly focuses on the relevance and value of the degree and course offerings by the HE Institutions.

The 'Supply side Initiatives' has to be formalized by establishing a statutory institutional structure under the new scheme of UGC to establish **KAUSHAL Centers** in the Universities to realize the objectives of CBCS and CFSD (Osmania University originally envisaged under UPE scheme as part of component of holistic development and coined the name as "**Interdisciplinary School of Honor's Programs & Finishing Studies**" to make the course offerings more attractive) and is considered to be supplementary system of education to empower the talent pool, who deprived of wider scope of prospects, will be allowed to expand the horizon of knowledge through different modes (formal and non-formal) of study opportunities (Distance Education, Open and Virtual Learning, Self-Learning, Continuing & Extension Education, Contact study program etc.). The major aim is to provide a wide diversity of educational options and restore the right to education for the unreached or who denied access to earn their degrees of choice to fulfill their aspirations and livelihood is expected to avail the life coping educational opportunities through the promotion of technology assisted participatory teaching-learning processes. Ultimately the students are responsible for making themselves familiar with all regulations and rules affecting them.

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## 2.0.0 METHODOLOGY:

The purpose of Methodology is to facilitate the implementation of Guidelines issued by the **UGC** and **MHRD** over the **CBCS** and **CFSBVC** towards accomplishing '**Academic Reforms**' through **Strategic Tools** and **Implementation Tools** approaches that meet the 'Supply side Initiatives'.

### 2.1.0 STRATEGIC TOOLS:

The General Education constitutes 74% of total graduates output of the country, therefore the Choice Based Credit System (CBCS) and Credit Framework for Skill Based Vocational Courses (CFSBVC) is offered as a Multi Modular Program for General Education.

To enlarge curricular space

To add greater academic value

To make the courses more attractive through blended learning

To acquire the knowledge across the disciplines through interdisciplinary approach

To prepare with required employable skills and confidence through learner centric mode

To accelerate the learning process with allowable mix of flexibility for formal and non-formal mode of education

To facilitate for horizontal and vertical mobility with multiple entry and exit options and also minimize the gap between employment and education

To foster human abilities for better acceptability, viability and sustainability of the programs envisaged under **Academic Reforms** by the UGC for improving the '**Quality**' of HE.

The significance and requirements of reforms and initiatives are as a part of 'Qualifications Framework' development and were recognized through following measures

1. Semesterization of Curricula;
2. Restructuring of Syllabi;
3. Standardization of Examinations; and
4. Certification Criteria of Evaluation;
5. Value Addition through Relevant Skill Education



### **Objectives:**

To provide equal opportunity in an exceptional environment to nurture the diverse group of students to achieve high levels of individual potential and grow academically, emotionally, intellectually and socially by means of a unique approach for both skills and general education;

To empower the student to be more competitive, innovative and productive in the process of life-long learning through providing access to diverse choice of subjects for a wide range of career paths with seamless mobility across disciplines and institutions to meet the new world order.

To develop positive personal attitudes, professional competencies and managerial skills that are critical for employment and good citizenship among students through value education;

To counsel, guide and train in strategies necessary for life-coping skills to deal with societal trends, so that they learn to resolve conflicts affecting family and strive for personal stability and better life by enhancing career aspirations;

To quantify the successful learning outcomes of a subject as 'Credit' in terms of reliable methods of valid instruction and standard evaluation in acquiring a specified qualification;

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To define the Credit Allocation, Acquisition, Acceptance, Accumulation, Equivalence, Flexibility Recognition and Transfer for multiple exit and entry options between employment and education;

To enable the use of inherent potential of ICT for innovative forms of learning process;

To exercise option and decide his/her own pace of learning- slow, normal or accelerated plan and sequence his/her choice of paper, learn to face challenges through team work/ project work/ and may venture out to acquire extra knowledge/ proficiency through add on facilities.

To earn a minimum number of credits in chosen discipline but should have the freedom to get the rest from courses in other disciplines for defined / required number of credits for a degree.

### **2.1.1 Semesterization of Curricula:**

The Semesterization of Instructional Course Content is to enlarge the curricular space for academic momentum and accelerate the learning process through a flexible and allowable mix of formal (not less than 60%) and non-formal (not more than 40%) mode of education and also enables to achieve and sustain a system of quality and excellence in higher education;

- To accommodate diverse choices that dynamic and motivated students may like to have it;
- To provide utility oriented instruction that matches the student scholastic needs and aspirations;
- To minimize the demand for memory recall and ensure cohesive learning experience more easily;
- To transform the students from a passive recipients to active participants in knowledge imbibing process;
- To enable for inter connected and coordinated steps for effective implementation:
  - Determine the Credit Points and Prepare Time lines to implement at different levels;
  - Arrange deliberations and make resolutions at various levels of academic bodies for adoption of semester system at different levels of higher education;
  - Re-configure and Revise the Curricula to fit into the semester contact hours and community needs;
  - Decision on allowable mix of Multi-Mode Teaching-Learning (Student-Teacher Contact, Distance, Open and Virtual or Self-Learning, Continuing & Extension Education, etc.)

The reform based curricula must focus on exploration and explanation, where the understanding processes should outweigh the learning standard procedures that leads for a meaningful degree or qualifications, which serves essentially for livelihood and employer needs.

### **2.1.2 Restructuring of Syllabi:**

The syllabi is the content of a program of study linked to systemic learning process with defined outcomes relevant for the people, the economy and the society at large. However the syllabi being taught in the universities / institutions today need to be modified suitably and updated regularly / periodically in consultation with the alumni, industry, business and the service sectors as well as the active social-cultural organizations. Therefore restructure the curriculum/syllabi in the form of credits / modules based on contact hours / student efforts for a specified/key learning outcomes in order to infer the purpose of the program and standardize with comparable programs elsewhere for acceptance, recognition, equivalence and transfer. The credit framework enable for modular courses and recognizes the qualifications in terms of learning outcomes and rights attached to the qualification, which facilitate for easy exit and entry system.

A Learning Outcome may be described as a statement of what a learner is expected to know, understand and be able to demonstrate after completion of a process of learning.

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To meet these educational goals, draw/build a curricular framework, that is to be viewed in three 'DOMAINS' of **Core (60%)**, **Elective (20%)** and **Foundation (20%)** Courses under **CBCS**, **Vocational** and **General** Education components under **CSFD** and overall the curriculum focuses on **knowledge**, **skills** and **competency** modules in addition to **attitudes** and **values**;

- To place emphasis on current knowledge, skills and competency that meets on national and international advances for relevance of new ideas, concepts and innovations in the concerned discipline to be incorporated in keeping with the thrust of the program;
- To enable the individual to acquire necessary attitudes and values in addition to knowledge that distinguish scientific inquiry and spirit of vision required to make sound judgments about the validity of information which they encounter in a learning process.

**Knowledge based Courses/Modules:** Must be designed to place theoretical inputs that enable to know the concepts and facts from information source and can be delivered through formal and non-formal mode. Knowledge can be acquired in isolation to know the facts of verifiable information through intellectual sense of vision and spirit of enquiry or inquiry;

**Skill based Courses/Modules:** Should be highly structured and needs greater theoretical inputs with practical expertise that enables to understand and reason out the concepts and facts derived from known information and can be delivered through formal mode The skills to be learned from integration of theory and practical through directed instruction to understand the facts;

Skill based short duration courses are more useful for the rural learners looking for employment or self-employment or better employment locally but they are not available in the formal system. Such courses would also be enriching for those who are in employment or seeking self-fulfillment.

**Competency based Courses/Modules:** Mostly formatted and developed based on application of specific knowledge and skills to define, collect, verify, analyze and validate the concepts and facts from a known information to establish relation and draw inference for varied situations to practice and delivered through formal mode for both knowledge and skills in addition to rigorous practical training. The competency is recognized from transferable skills accomplished through the ability to do, which should be developmentally appropriate and relevant for future employment and education needs in order to contribute for modern economy.

### **2.1.3 Standardization of Exams:**

The Examination needs to be standardized to ensure the validation and time-frame for measuring the performance and abilities through comprehensive continuous assessment of individuals, who undergone a well-defined learning process of acquisition of knowledge, skills and competency among Core, Elective and Foundation based courses in an aptly devised curriculum.

- To Maintain Set Standards and Quality with rational approach.
  - Adhere to time-frame in conduct of examinations;
  - Evolve adequate norms and standards for approaches to assessment;
  - Adopt continuous evaluation and devise the components of internal assessment;
  - Evaluation process should be verifiable to ensure transparency, fairness and accountability;
    - Prepare question papers more comprehensively among the topics covered, while improving the nature of questions and should be largely based on course objectives and learning outcomes rather than to assess the simple acquisition of knowledge;
  - Develop question bank for knowledge based courses and Question Paper consists of recoltable (50%), attentive (30%) and diagnostic rigor (20%);

- Question Papers to be formatted, moderated and key is prepared for skill based courses for external evaluation;
- Skill based Question Paper consists of knowledge (40%), understanding (40%) and analytical (20%) questions;
- Competency based Question Paper consists of knowledge (30%), understanding (30%) and analytical/problem solving (40%) questions;
- Answer Books to be encoded before evaluation and decoded before tabulation'
- Integrate continuous assessment and end semester evaluations, and ensure timely declaration of results;
- To Enhance the Value of the Degree / Certificate by reassuring the society that University / Institution had taken every step to maintain the desirable standards in examination system.
- To be Recognized by other Universities and Employers

#### Mode of Examination:

Test Type	Answering Time	Parameter	Answer Enability	%
Objective (½ or 0.5 – 1 Marks)	Knowledge (1 – 2 Minutes)	Information	Recognize	50
		Understanding	Differentiate	30
		Application	See Relation	20
Short (3 – 5 Marks)	Skills (6 – 9 Minutes)	Attentiveness	Recall	40
		Understanding	Reasoning	40
		Application	Find Relation	20
Essay (12 – 15 Marks)	Competency (30 – 40 Minutes)	Aptitude	Draw Inference	30
		Ability	Providing Critical Analysis and Views	30
		Application	Establish Relation with a Case Study	40

#### 2.1.4 Certification Criteria of Evaluation:

Switching over from Numerical Marking System to Letter Grading System of Evaluation, which is universally accepted and recognized version to value the Degree or Qualification.

There are two methods that have been in vogue for awarding grades in a course.

1. Relative grading
2. Absolute grading

The relative grading is based on the distribution (usually normal distribution) of marks obtained by all the students of the course and the grades are awarded based on a cut-off marks or percentile.

The absolute grading, the marks are converted to grades based on pre-determined class intervals, which is the most preferable option.

To implement the grading system, the colleges and universities can use any one of the above methods. The University / College should switch over from 'Marks' and 'Division' to Global trends of 'Grading' system to facilitate the universal acceptance and recognition of degree for academic and career pursuits. This enables to declare the knowledge and skills available with a person is expected to a certifiable level of qualifications to be accepted by the society.

The ranks should be awarded for candidates who have passed all papers of a particular program in the first attempt only and will be decided on the basis of Overall Weight Percent Marks (OWPM) of the Core and Elective courses only.

The evaluation outcome to be expressed in predetermined 10 point scale of Grades, which would place students in overlapping broad bands;

#### **Grades and Grade Points**

<b>Letter Grade</b>	<b>Achievement Scale</b>	<b>Grade Point</b>	<b>Relative Performance (%)</b>
<b>O</b>	<b>Outstanding</b>	<b>10</b>	<b>85.00 – 100.00</b>
<b>A+</b>	<b>Excellent</b>	<b>9</b>	<b>75.00 – 84.99</b>
<b>A</b>	<b>Very Good</b>	<b>8</b>	<b>65.00 – 74.99</b>
<b>B+</b>	<b>Good</b>	<b>7</b>	<b>55.00 – 64.99</b>
<b>B</b>	<b>Above Average</b>	<b>6</b>	<b>50.00 – 54.99</b>
<b>C</b>	<b>Average</b>	<b>5</b>	<b>45.00 – 49.99</b>
<b>P</b>	<b>Pass</b>	<b>4</b>	<b>40.00 – 44.99</b>
<b>F</b>	<b>Fail</b>	<b>0</b>	<b>Less than 40</b>
<b>Ab</b>	<b>Absent</b>	<b>0</b>	

A student obtaining Grade F shall be considered as failed and will be required to reappear in the examination. For non-credit courses 'Satisfactory' or "Unsatisfactory" shall be indicated instead of the letter grade and this will not be counted for the computation of the SGPA/CGPA.

- Grade is an index of the performance of a student in a particular course and Grading is the transformation of scaled marks secured by a student in a given course and tries to reduce the subjective element in assessment/evaluation and there by minimizes any disadvantage to the student;
- Grade Point is the weightage allotted to each grade depending on the range of marks awarded in a course;
- Compute the Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA) adopting a standard and universally acceptable procedure;

The Universities/ Institutions can decide separately for professional and technical courses on the grade or percentage of marks required to pass in a course and also the CGPA is essential to qualify for a degree taking into consideration the recommendations of the statutory professional councils such as AICTE, MCI, BCI, NCTE etc.,

#### **2.1.5 Value Addition through Relevant Skill Education:**

Many students passing out from institutions of higher education do not have the kind of skills they need to work in a real-world environment, since the jobs for unskilled and semiskilled are declining, therefore the mainstream higher education is facing challenges declined financial support and pressure of enhancing the enrollment to meet the GER targets. The main drawbacks includes lack of ability to analyze or solve problems, relate problems to different contexts, communicate clearly and have an integrated understanding of different branches of knowledge. The acquisition of broad range of relevant skills can contributes for country's economic growth.

The skills are defined as the learning ability of a student to carry out the specified task with a pre-determined result often within a given amount of time, energy or both.

There is a genuine need for a provision of value addition through relevant skill education, which enables the individual to improve the capability, competitiveness and entrepreneurship.

1. Life-coping Skills
2. Working Skills
3. Scholarly Skills

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### **2.1.5a Life-coping Skills:**

These are General Skills and also known as human skills acquired through experience, practice, culture, ethics and values, which mainly depends upon societal norms and community expectations. Further it facilitate for building or establishing relationships of trust and respect for productive interaction.

To impart life-coping skills for the students seeking certifiable level qualifications in the process of learning or acquiring a qualification / degree in General, Professional and Technical education, which is acceptable nationally and comparable internationally. The life-coping skills includes

- Basic Skills (Communication, Computer, Accounts and Arithmetic/Statistics),
  - The lack of basic skills leads to welfare dependency, dropout and unemployment.
- Analyzing Skills (Rational Thinking, Decision Making, Problem Solving and Reasoning)
  - The deficiency of analyzing skills are the characteristics of failure, addiction and criminalization.
- Personal Skills (Responsibility, Integrity/Honesty, Self-Management & Social Engagement)
  - The dearth of personal skills attributes for corruption, violence and social conflicts.

These can be offered as modular courses both in the formal and non-formal mode of learning.

### **2.1.5b Working Skills:**

These are specific skills, where value addition is accomplished with continuous improvement of working knowledge by understanding the theoretical concepts and principles relevant for advancement of practical skills that enable one to recognize the prior learning by linking mobility in mastery of sector skills with pursuit of knowledge through the formal education stream.

The courses are classified into trade skills and non-trade skills and to be designed on the basis of relevance with a mix of knowledge and skill components useful for marketplace. It should be helpful to upgrade the functional capabilities of learners and also to incorporate especially the wants of various sectors of economy and employment in its curriculum, in an innovative and flexible manner while producing well-groomed graduates. It is envisaged that skillfully qualified graduates with a sound knowledge in core courses and expertise in concerned area will have more openings in service, industry and self-employment sectors. To meet this challenge the incorporation of skill oriented and value added, add-on courses in Colleges / Universities to be opted by students as a parallel sub-discipline while pursuing their degree level education.

These can be offered as Certificate, Diploma and Degree courses preferably in formal mode of learning incorporating more of training component.

### **2.1.5c Scholarly Skills:**

These are known as intellectual skills, which facilitate in nurturing the inherent talent of imagination, innovation and creativity among students based on their merit and brilliance in learning process ability for exploring observation, intellectual interaction, analyzing skills to solve problems and find new things in novel ways of approaches includes the aspects of human inquiry and the value of their thinking that contribute the economic empowerment.

These courses enable the individual to be an entrepreneur or employed at higher level stature in managing the organization or team leader for group of people.

These can be offered either Modular or Certificate courses both in formal and non-formal mode of learning in a demand skills set that are cut above the rest of courses.

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## **2.2.0 Desirable Norms and Definable Functional Terms:**

The equal opportunity through social inclusion can be accomplished in a better way with desirable norms and definable terms, when flexibility in course offerings (Formal and Non-formal) is allowed for acquisition of knowledge and skills in obtaining a specified (UG/PG) degree or qualification in terms of minimum working days, contact hours, credits and grades in a semester / year. .

### **2.2.1 Learning Mode of Education:**

To respond the challenges of modern society with increasing diversity, the learning process need to transmits its accumulated knowledge, skills and values through different modes of education.

#### **2.2.1a Formal Education:**

Institution based, structured, hierarchically and chronologically graded, teacher / trainer centred administered education according to set norms, which emphasises objectivity of knowledge, memorizing, understanding and aims at certification through methodologically developed learning process. The formal mode (not less than 60%) of learning provides well-resourced education with defined learning outcomes to value the certification process.

#### **2.2.1b Non-formal Education:**

It is based on learner centric and because of openness with flexibility for practice learning outside the institutional process, emphasises intrinsic motivation on voluntary approach in learning. Therefore the value being attached for multiple pathways (Open, Distance, Virtual, On-line, Contact, Continuing, Extension, Experiential, Self-Learning etc.,) for easy and increased access to organized education. This includes complimentary aspects of learning process in terms of social context where planned activities impose meanings on learner for useful knowledge that embeds educational aims to promote livelihood and income generation in a diverse professional actors. Further it covers the supplementary aspects of learning process that supports remedial learning through work integration. It enables to experience the world of work, allows to participate in social activities and also to contribute for personality development. The recognition of non-formal mode of learning to a limited extent (not exceeding 40%) permits for flexibility.

### **2.2.2 Working Days, Contact Hours and Credits in a Semester / Year and Desired Number of Credits for UG/PG Programs:**

“**Working Day**” is the minimum of 8 working hours of time spent in a day for a specified academic activities of instruction, admission, examination and evaluation;

In India the Higher Education comprises 180 working days in an academic year, which consists of 28-30 weeks of class room teaching at 5 working days/week. Further 12 weeks are allocated for admission and examination, 8 weeks for vacation and 2 weeks for public holidays is distributed over 52 weeks in a year. The semester comprises 90 working days consists of 14-15 weeks;

“**Contact Hour**” is the 50 - 60 minutes of time spent on instruction;

A Student or Working individual is required to spend mandatorily 40 hours/week and 8 hours a day distributed over five days a week (Academic Administrator – 50 hours/week) as per International norms. In an academic institution this may be split into 70% - 80% class/contact time (28 – 32 Hours/Week) for instruction and 20% - 30% outside the class for Co and Extra-curricular activities time (08 – 12 Hours/Week) for holistic and personality development.

“**Credit**” is a recognition that an average learner has successfully completed a prior course of learning in a specified contact hours for a specific kind of instruction (Theory/Practical/Internship), corresponding to particular level of qualification;



In a semester pattern 1 credit point for learning corresponds to 1 hour theory or 2 hours practical contact time per week over a semester. Similarly for internship / field work / self-learning, based on e-content or otherwise, the credit weightage for equivalent hours of study shall be 50% of that for lectures / tutorials followed by assignments submission for evaluation.

	Teaching Working Days	Working Hours	Contact Hours		Total Credits
			Curricular	Extra-Curricular	
Week	5	40	30	10	2 - 3
Semester	90	600	450	150	20 - 28
Year	180	1200	900	300	40 - 56

“**Qualification**” is a formal outcome of learning process in a specified standards of instruction, assessment and validation that determines the individual’s feat by a competent body.

#### Total Credits for Specific Degree

Type of Degree	Regular	Distance	Honor’s	Vocational
Under Graduate	135 -150	120 - 135	150 - 165	155 - 165
Post Graduate	90 - 100	75 - 90	100 -120	110 - 120
Advanced Diploma	50 - 60	50 -60	-	60-80
Diploma	40 - 50	40 – 45	-	40 - 60
Certificate	20 - 30	20 - 25	-	20 - 40

“**Grading**” constitutes the core of CBCS and is an index of performance of a student in particular course of study showed in the form of alphabetical letter, as it tries to reduce the subjective element in assessment / evaluation and there by prevents any disadvantage to the student.

#### 2.2.3 Reflection of Weightage for Attendance:

Attendance is mandatory to minimize the dropouts and enhance the access. Therefore there is a need to acknowledge and certify the participation score points for attendance as Total Non – Accumulative Credits to be awarded as Grades to reflect separately in the memo from CGPA in order to increase the % of attendance of students in a formal mode of learning;

#### Attendance Credits/Grades

Activity / Evaluation	Theory (3)	Practical (2)
Attendance	1	1.0
Continuous Evaluation	1	0.5
End Exams	1	0.5

**>90% - A; > 80%<90% - B and 75% - C**

An appropriate weightage to be accorded for instruction classes and examinations, however universities / institutions have the independence to incorporate weightage for co and extra-curricular activities a maximum of 25% for instruction classes. 75% attendance is mandatory to score credit point in a particular course offered under formal mode and similarly attempting the assessment and examination is compulsory to score credit points. Based on the score points percentage the Grade may be allocated to the student and reflected in the consolidated Memorandum issued at the end of completion of Degree.

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#### 2.2.4 Key Words:

**Academic Year:** Two consecutive (odd + even) semesters constitute one academic year.

**Access:** The right of qualified and eligible candidates to apply and to be considered for admission to higher education;

**Accreditation:** A process of assessment and review of quality that enables a higher education program or institution to be recognized or certified as meeting appropriate standards;

**Admission:** The act of, or system for, allowing holders of qualifications to pursue studies in higher education at a given institution and/or a given program;

**Assessment:** The written appraisal or evaluation of standards of an individual's foreign qualifications by a competent recognition authority;

**Choice Based Credit System (CBCS):** The CBCS is a flexible system of learning provides choice for students to select from the prescribed courses among core, elective and foundation devised on knowledge, skill and competency norms.

**Competence:** The proven ability to use acquired knowledge, skills and personal and social abilities, in discharge of responsibility roles. It is the ability to do a job well;

**Competent Recognition Authority:** A body officially charged with making binding decisions on the recognition of foreign qualifications;

**Course:** An organized / structured pattern of instruction on a specified subject usually referred to as 'papers' is a component of a program and define learning objectives and learning outcomes. A course may be designed to comprise lectures/ tutorials/ laboratory work/ field work/ outreach activities/ project work/ vocational training/ viva/ seminars/ term papers/assignments/ presentations/ self-study etc. or a combination of some of these to meet effectively the teaching and learning needs and the credits may be assigned suitably. All courses need not carry the same weight. Each Course is identified by a unique course code.

**Credit Accumulation:** It is the term used to describe the process of collecting credits allocated to the learning achievements of units within a program. Upon the successful accumulation of a specified amount of credits in required subjects, a learner may be entitled to be awarded the final qualification or to gain access to the final examinations leading to a qualification.

**Credit Based Semester System (CBSS):** The requirement for awarding a degree or diploma or certificate is prescribed in terms of number of credits to be completed by the students.

**Credit Framework for Skill Based Vocational Courses (CFSBVC):** The CFSBVC enables multiple entry and exit system of education with different level certification (Certificate, Diploma, Advanced Diploma and Degree) and facilitate to opt courses under Skill / Vocational Component (60%) and General Component (40%);

**Credit Point:** It is the product of grade point and number of credits for a course;

**Credit Transfer:** It refers to the process of transferring credits gained in one credit system or institution to another credit system or institution to facilitate mutual recognition of prior learning for mobility between institutions and enable to receive a specific qualification.

**Cumulative Grade Point Average (CGPA):** It is a measure of overall cumulative performance of a student over all semesters. The CGPA is the ratio of total credit points secured by a student in various courses in all semesters and the sum of the total credits of all courses in all the semesters. It is expressed up to two decimal places;

**Equity:** Fair representation of the unrepresented, under represented, marginalised and disadvantaged groups / section of deserving and desiring individuals in higher education to correct the regional, economical and social imbalances

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**Fee:** The amount prescribed by the university based on credits offered for a particular course of study / program from time to time;

**Formal Learning:** Learning typically provided by an education or training institution, structured (in terms of learning objectives, learning time or learning support) and leading to certification.

**Field of Study:** The main academic disciplines or subject requirements that collectively define the qualification;

**Franchise:** The situation where an institution agrees to authorize another institution (nationally or internationally) to deliver an approved program whilst normally retaining overall control of the program's content, delivery, assessment and quality assurance arrangements;

**Grade Card or Certificate:** Based on the grades earned, a grade certificate shall be issued to all the registered students after every semester. The grade certificate will display the course details (code, title, number of credits, grade secured) along with SGPA of that semester and CGPA earned till that semester;

**Grade Point:** It is a numerical weight allotted to each letter grade on a 10-point scale;

**Higher Education:** means post-secondary education, training or research that is recognized by the relevant authorities of a Party as belonging to its higher education system;

**Higher Education Institution:** An establishment providing higher education and recognized by the competent authorities as belonging to its system of higher education;

**Knowledge:** means the outcome of the assimilation of information through learning Knowledge is the body of facts, principles, theories and practices that is related to a field of work or study. Knowledge is described as theoretical and / or factual;

**Learner:** refers to an individual undergoing a course of study or skill development training, whether in a formal or informal setting;

**Learning Outcomes:** represent what a learner is expected know, understand and able to do on completion of a learning process, and which would be expressed in terms of knowledge, skills and competence in addition to attitudes and values;

**Letter Grade:** It is an index of the performance of students in a said course. Grades are denoted by letters O, A+, A, B+, B, C, P, F and Ab;

**Module:** A separate and coherent block of learning, and is a part of a modular program of studies where the curriculum is divided into a range of similar sized segments;

**Non-credit course:** A course that do not part of CGPA, however one is expected to attend class work and complete all the assignments and examinations to earn credits and a pass certificate with grade. They are intended for students who want to gain general knowledge, learn a new skill, upgrade existing skills, or enrich their understanding about a wide range of topics. These can be acquired through either formal or non-formal mode of learning or education.

**Non-formal Learning:** An intentional learning acquired in an organized (in terms of learning objectives, time or support) form through non-estimative sources in a non-certifiable settings.

**Overall Weight Percentage of Marks:** The average percentage score of all subjects in a degree program can be considered as Overall Weight Percentage of Marks;

**Post Graduate Programs:** mean Master's degree programs in the Faculties of Arts, Commerce, Science, and Social Science, (Where ever it is applicable to the concerned university);

**Program:** An educational program consists of an organized sequence of courses (Papers) leading to a defined objective for the award of a Degree / Diploma or Certificate.

**Program of Study:** A set of courses, the various components of which complement and build on each other in order to provide the student with a higher education qualification;

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**Qualification:** means any qualification issued by relevant authorities attesting to the successful completion of an education program and giving the holder of the qualification the right to be considered for admission to higher education;

**Quality Assurance:** An on-going process of evaluating the quality of a higher education program or institution to assure stakeholders that acceptable standards are being maintained;

**Recognition of Prior Learning (RPL):** A condition of enrollment that a student is required to meet in order to demonstrate current readiness and is the process of recognizing previous learning, often experiential, towards gaining a qualification;

**Recognition of Qualifications:** means a formal acknowledgment as defined and given by the competent recognition authorities of a Party of the value of a foreign educational qualification with a view to giving access to educational and/or employment activities;

**Sector:** means a grouping of professional activities on the basis of their main economic function, product, service or technology

**Semester Grade Point Average (SGPA):** It is a measure of performance of work done in a semester. It is ratio of total credit points secured by a student in various courses registered in a semester and the total course credits taken during that semester. It shall be expressed up to two decimal places.

**Semester:** Each semester will consist of 15-18 weeks of academic work equivalent to 90 actual teaching days. The odd semester may be scheduled from July to December and even semester from January to June.

**Skills:** means the ability to apply knowledge and use know-how to complete tasks and solve problems in a replicating (designed) and transferable (situational) forms. Skills are described as cognitive (involving the use of logical, intuitive and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools and instruments); Skills can often be divided into general, generic and subject specific.

**Trainer or Skill Knowledge Provider (SKP):** means someone who trains, instructs, teaches or otherwise enables the learner (s) to acquire the appropriate knowledge and skills.

**Transcript:** An official record or breakdown of a student's progress and achievements. Many credit-based education systems employ detailed transcripts that show the credits and grades for units undertaken;

**Transcript Validation:** The process by which a recognized awarding institution judges that a program of study leading to a qualification is of appropriate quality and standard.

**Under Graduate Programs:** mean Bachelor's degree programs in the Faculties of Arts, Commerce, Science, and Social Science, (Applicable to the concerned University).

**University:** A university is a place where new ideas germinate, strike roots and grow tall and sturdy. It is a unique space, which covers the entire universe of knowledge. It is a place where creative minds converge, interact with each other and construct visions of new realities and also established notions of truth are challenged in the pursuit of knowledge.

**Visiting Student:** A student who already registered for a degree in one institution can seek a course from other institution to earn credits under MoU/MoA or through affiliation / franchise.

**School / College / Polytechnic:** refer to any Institution providing Education and facilitates skills to learners.

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### **2.3.0 IMPLEMENTATION TOOLS:**

Higher Education Programs have to address the 'Supply side Initiative' measures through the facilitation of horizontal and vertical mobility with multiple entry and exit options between education and employment, and also the recognition of degrees across the Nation and the World. Further it should aid reforms to integrate work / practical experience / creativity with the learning processes while enabling to acquire the qualifications under formal and non-formal mode.

In response to National Call for improving 'Quality' through 'Academic Reforms' that anchored universally, envisaged for integrated 'Supply side Initiatives' to institutionalize internal processes in the form of implementable tools with active collaborations of institutes and industry.

1. Choice Based Credit System (CBCS)
2. Credit Framework for Skill Based Vocational Courses (CFSBVC)

#### **2.3.1 PART-I - Choice Based Credit System:**

The CBCS is a 'Supply side Initiative' measure evolved as a process of 'Academic Reforms' that focuses on the learner centric education. It is a flexible, cafeteria-type learning system in a semester pattern to foster creativity and innovation that bridges the gap between professional and liberal education to empower the students for meeting the challenges of Globalization with an inbuilt seamless National and International horizontal and vertical mobility.

A student can exercise the option to decide his/her own pace of learning - slow, normal or accelerated plan and may venture out to acquire extra knowledge/ proficiency through add-on facilities to attain professionalism without compromising the quality.

- Enables students to choose courses of their choice among Core (60%), Elective (20%) and Foundation (20%) from disciplines that imparts Knowledge, Skill and Competency oriented Education for obtaining a specific Degree Qualification;
- Permits for multi-mode / blended (Regular, Distance, Open, Virtual, Self, Continuous and Extension etc..) teaching - learning process and allows mobility between formal and non-formal streams;
- Makes best use of the expertise of faculty across various disciplines through interdisciplinary approach in learning;

##### **2.3.1a Salient Features of CBCS:**

- It holds the all ingredient features of 'Academic Reforms' with a scope for flexibility in course offerings blended with abundant facility for skill practice and activity orientation that he / she could learn in depth without sacrificing his/her creativity thereby to match students' scholastic needs and aspirations';
- Provides enhanced learning opportunities
- Enable inter institutional transferability through part completion of an academic program in one institution and part completion in a specialized (recognized) institution;
- Minimizes the wide disparity among discipline wise enrollment;
- Adopts Credit and Grading System of Evaluation with an advantage of relative / absolute weighing of performance to facilitate the Universal Recognition of Degree for expanding Employment and Educational Opportunities;

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### **2.3.1b Instruments of CBCS:**

The Instruments of CBCS will universalize the diversity of academic program offerings through flexibility, equivalence, recognition, accumulation, transfer and mobility to aid the learning process and also to accomplish overall improvement in higher education system. This enables to minimize the multiple approaches in maintenance of academic standards and also the difficulties faced by academia and employers to understand and infer the level of qualification or degree and also the performance of graduating students from different universities and colleges within and across the countries. Further it provides choice for students to select from the prescribed courses among core, elective and foundation courses devised on the basis of key learning objectives and outcomes of knowledge, skills and competency paths for career progression.

#### **2.3.1b – i Flexibility**

Academic / Credit Flexibility is an important key steering towards a variety educational experience of highest quality in achieving positive outcome for the desired academic goals. In this the students have an option to choose courses in formal and non-formal mode of learning, while to select 50 per cent of their courses as core courses and the rest as electives and foundation courses, where elective can be discipline centric or interdisciplinary or open (across the faculties) stream. If the same course is being taught by more than one faculty, the students have option to register the course with any of the faculty of their choice. Further this also facilitate the students to register additional or value added courses of their choice and interests beyond minimum required credits for a degree. The students are at liberty to change their branch at the end of first semester / year based on the academic performance in enrolled courses.

#### **2.3.1b – ii Equivalence**

Credit Equivalence can be divided into three distinct stages which result in judgments independent of the student. First, an assessment of the quality of the course must be made. Second, the course must be evaluated on the basis of its comparability to courses at the receiving institution. Finally, the coursework for which credit is granted must be determined to be applicable to the program of study for which the student has applied. This will ensures that the aspiring students are not inappropriately placed in programs of study and courses for which they are ill prepared. Each Module or Unit is assigned with a number of credit points reflecting the value of the module or unit to calculate the credit equivalence for a course level.

#### **2.3.1b – iii Recognition**

The attributes for course recognition includes academic credits, accreditation, qualifications, experience and knowledge of instructor, method of instruction, level of instruction, learning objectives, learning outcomes, grade scale and grade earned, pre-requisites, co-requisites and prescribed textbooks and reference books. The credit recognition provides a way of measuring and comparing diverse learning pathways and outcomes, which entitles to transfer from one institution to another and the recognition of qualifications entitles to pursue further education.

#### **2.3.1b – iv Accumulation**

The credit accumulation at different certification levels of qualification framework enables the mobility based on equivalence and recognition. This method allows a student to make a claim for exemption from a module, or access to a particular level of course of study, where they have previously certified learning from another institution, which is appropriate to satisfy the general requirements of a course of particular level of qualification and retrospectively brought together or combined together to award the degree.

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### **2.3.1b – v      Transfer**

Credit transfer is a system which allows students to move between programs and institutions, which often requires the determination and evaluation of prior course learning and enables for acquisition of qualification or degree when a student changes goals and aspirations as a result of their course exposure. There should be a minimum (5%) and maximum (50%) transferable credits for a particular level of qualification or degree. There should be a maximum validity period for credits accumulated for transfer. Specific limits may be fixed for Core, Elective and Foundation Courses based on periodicity of updating of curricula.

This can be divided into four main parts:

1. What transpires prior to a college transfer,

A student engaged for different courses and receive credits at different levels will be evaluated for equivalence.

2. What transpires during college transfer,

A student typically applies to a college or university as a prospective student requires an in-depth analysis of every course taken at any other college or university and/or also the evaluation of prior academic history and life experiences.

3. What transpires after college transfer,

A student academic transcripts will be evaluated for equivalence, recognition and accumulation for either vertical or horizontal mobility. The credits gained or awarded for courses undertaken elsewhere will be so designated specifically for clear identification on transcripts for courses which match the pathway requirements of the degree program for which the student proposes to enroll.

4. What proactive efforts are managed to help define academic pathways and agreements between institutions to streamline college transfer.

Students who participate in exchange programs may be permitted flexibility in the choice and sequence of modules taken at appropriate level of study, subject to meeting the norms of the relevant faculty / academic council of the institution.

Establish policies, define regulations, and determine procedures, methods and standards of practice for institutions to follow when evaluating credit transfer. Now it becomes an important area of national and transnational education policy, particularly in relation to mobility between countries and educational sectors. Consequently, agreements between institutions / universities have been put in place,

### **2.3.1b – vi      Mobility**

The student mobility across institutions and countries is to make knowledge and learning more accessible to each individual that governs true cooperation, collaborations, relationships and partnerships to understand exceptionally rich culture values and scientific advances through education, research and training for development of talented human resources. The incorporation of international dimension in the curriculum, the teaching and the learning processes permeates the mobility across the borders based on principles of solidarity. This can be achieved through exchange programs and also made possible based on the recognition of specific policy instruments with established practices such as National Qualification Frameworks, Quality Assurance Measures and National Information System. This enables to formulate the progression pathways to codify the diverse landscape qualifications of higher education system.

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### 2.3.1c Classification of Courses under CBCS:

Courses offered in a UG / PG program may be classified into three kinds: **Core**, **Elective** and **Foundation** and will be designed based on **Knowledge**, **Skill** and **Competency** acquisition.

1. **Core Course:-** There may be a Core Course in every semester. The core course is unique to the program and to be compulsorily studied by a student as an essential requirement to complete or earn the degree in a said discipline of study. It will be the basic required course for majoring in a subject that will ensure depth.
2. **Elective Course:-** Elective course can be chosen from a pool of papers. It may be supportive to the discipline of study, provides an expanded scope, enables an exposure to some other discipline/domain and nurtures student's proficiency/skill.

An elective may be categorized into

**"Discipline centric"** opted to enhance the proficiency in specified area of chosen discipline within a faculty, when it is more than 20% of total curriculum it becomes a specialization;

**"Interdisciplinary"** preferred from a converging disciplines that enables to advance fundamental understanding of concepts beyond single discipline within/across the faculties;

**"Open Option"** chosen within or across or unrelated disciplines/faculties, which add general / specific knowledge to enhance students intellectual acumen;

3. **Foundation Course:-** The Foundation Courses are meant for enriching the progressive **attitudes** and **values** among learners and further classified into two kinds:

**'Compulsory Foundation'** courses are designed based upon the content that leads to Knowledge / Ability enhancement, which are mandatory for all disciplines.

**'Generic/Optional Foundation'** courses are skill enhancement for all-purpose or value-based aimed at person-making/humane education and are devised on common backdrop.

4. **Co-curricular Activities:-** These are designed / offered upon the holistic development of student and be part of outside the normal instruction hours, which includes NSS / NCC / Sports or Cultural Values or Debates / Seminars / Projects

### 2.3.1d Course Operation:

- Each course will have a character code and shall be assigned a specific number of Credits;
- A Core course would be unique to the program of study and should compulsorily be studied by a candidate as a basic requirement so as to get the degree in a said discipline of study. Two Core courses of each specialization / optional from same stream are compulsory for receiving a specific degree at UG level;
- A student will have to get enrolled at University/Constituent/Affiliated College for a Core course depending upon his/her requirement of a degree in the said discipline of study;
- A student will have a choice of selecting an Elective as well as Foundation courses from a pool of courses are likely to overlap with other programs or disciplines of study. They will have a choice of selecting such courses from the same department/faculty or the other recognized institution of higher education depending upon their interest, need, and long term goals and also feasibility in terms of available expertise and infrastructure;
- The Faculty / Department / Affiliated/Recognized Institution may design and offer courses after the due consideration by the Board of Studies and Approval by the University;



- It is the University/Institution that should enable the flexibility of offering courses;
- The student should seek core courses under formal mode, whereas the elective and foundation courses can be opted in non-formal mode;
- The teaching days per week should be 5 days, so as enable the student to be accessible for courses under non-formal mode or to attend open stream courses of other departments. The non- formal mode courses may be offered as split-site or interim or week end or summer arrangements, however they have to undertake university exams;
- A student has a provision to register for a minimum of 16 credits for slow pace and maximum of 28 credits for accelerated pace in a semester. However he/she should qualify with minimum number credits for a normal level program.
- A candidate may avail a maximum of two blank semesters in one stretch. However, he / she has to pay a nominal fee for maintaining a blank semester.
- The student shall deliver one seminar lecture in each of the semesters from the core subject, which will be evaluated;

The CBCS is eminently fits into the emerging socioeconomic milieu and could be effectively respond to the educational and occupational aspirations of the upcoming generations. The CBCS enables the students to choose multi-mode study opportunities (Distance Education, Open and Virtual Learning, Self-Learning, Continuing & Extension Education, Contact study program etc.) up to 60% of the Curriculum requirements in a regular mode of study, this feature enables the flexibility to make use of modern Information and Communication Technology (ICT) tools effectively in the learning process.

### 2.3.1d-i Post Graduate Programs:

There shall be four semesters in each PG Course and the Courses offered under Faculties of Arts & Social Sciences (M.A.,) / Sciences (M.Sc.,) / Commerce (M.Com.,) with 1800 instruction hours over a period of two years and consists of Core, Elective and Foundation courses;

The Core courses are Discipline Centric with fixed combinations and to be accessible in a formal mode, The Elective courses may be Discipline Centric/Interdisciplinary/Open and the Foundation courses consists of Mandatory and Optional with generic backdrop pursue in a Non-formal Mode;

**Table – 1: Post Graduate Programs Instructional Structure:**

Yr	Sem	Course – 1 (Credits)	Course – 2 (Credits)	Course – 3 (Credits)	Course – 4 (Credits)	Course - 5 (Credits)	Course – 6 (Credits)	Credits	Contact Hours	
									Week	Semester
I	I	Core – 1 (4) (Discipline)	Core – 2 (4) (Discipline)	Core – 3 (4+2) (Discipline)	Core – 4 (4+2) (Discipline)	Elective – 3 (2) (Open)	Communication (2)	24	28	420
	II	Core – 1 (4) (Discipline)	Core – 2 (4) (Discipline)	Core - 3 (4+2) (Discipline)	Core – 4 (4+2) (Discipline)	Elective – 3 (2) (Open)	Computational Analysis (2)	24	28	420
II	III	Elective – 1 (4) (Discipline)	Elective – 2 (4) (Interdisciplinary)	Core - 3 (4+2) (Discipline)	Core – 4 (4+2) (Discipline)	Elective – 3 (2) (Open)	Personality Development (2)	24	28	420
	IV	Elective – 1 (4) (Discipline)	Elective – 2 (4) (Interdisciplinary)	Core - 3 (4+2) (Discipline)	Core – 4 (4+2) (Discipline)	Elective – 3 (2) (Open)	Community / Project Work (2)	24	36	540
		16	16	24	24	08	08	96	120	1800

In addition to the above One can earn assigned credits for co and extra-curricular activities;  
**Communication:** Communicative English/Mass Communication/Creative or Technical Writing etc.  
**Computational Analysis:** Computer Applications/Statistical Analysis/Quantitative Methods etc.  
**Personality Development:** Inter Personal Relations/Professional Ethics/Leadership etc.

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Co-curricular / Extra-curricular Activities: Seminars / N.S.S / N.C.C / Games & Sports / Fine or Performing or Creative Arts/ Volunteer Service/Any other activity recognized for awarding Credits; Community / Project Work can be commenced at the end of First Year and before the commencement of Second Year. For Sciences it may be combined with One of the Practical Papers to increase the allocated Credits from 4 to 6 and Project Credit requires the double the duration of hours of Practical work;

In IV semester, a student shall undertake a project / field work leading to dissertation and the credits for this shall be 4 – 6. The project / field work is a choice between a theory (Arts/Social Sciences/Commerce) / practical work (Science);

The PG Course consist of 96-100 credits distributed over Core, Elective and Foundation Courses;

**Core courses** – 60 – 64 Credits with variable number of credits in I and II Year. The I year consists of 20 credits/semester and II year consists of 12 credits/semester;

**Elective courses** – 20 - 24 credits and offered in both I and II Year. The I year consists of 2 credits/semester and II year consists of 8-10 credits/semester;

**Foundation courses** - 08 – 10 credits and both I and II year consists of 2 credits/semester.

Teaching contact hours per Semester can vary in the range of 450 – 500 hours out of 600 hours not exceeding 1800 hours for whole course of two years duration and the remaining hours are allocated for Co and Extra-curricular activities for holistic development of students.

In order to qualify for a two-year master's degree a student must acquire a minimum of 90 credits (Minimum Credits: Core – 60, Electives – 20, Foundation – 8 and a Total of 90)

The detailed PG course structure of each Department will be designed by the Board of Studies of the Department and finalized by the respective Faculty and Approved by the Academic Senate of the University time to time;

### **2.3.1e-i Post Graduate Program Attributes:**

These attributes refers to Qualification Framework descriptors and also bench mark the program.

- Acquire the advanced knowledge and skills.
- Understand the subject critically, demonstrate mastery and innovation.
- Able to do substantial research and complete the dissertation.
- Responsible for decision making involving complex / unpredictable study/work situations.

### **2.3.1d-ii Under Graduate Programs:**

There shall be six semesters in each UG Program and the Courses offered under B.A., / B.Sc., / B.Com., with a minimum of 2700 instruction hours over a period of three years and consists of Core, Elective and Foundation courses based on knowledge, skills and competency values;

The Core Courses are Discipline Centric with Fixed Combinations and to be accessible in formal mode. Generally the core courses are unique to the type of degree program, among this one can choose an optional stream out of three optional streams required for a degree from outside the respective faculty, however earning core credits to the extent 60% from a single faculty is essential for completion of the program and eventual certification of degree. On the other hand students enrolled for a particular degree program of study would be free to opt and earn elective credits prescribed under the program can have either within or outside the Department/Faculty from the same University or outside recognized University / Institution of Higher Education;

**Table – 2: Under Graduate Programs Instructional Structure:**

Yr	Sem	Course – 1 (Credits)	Course – 2 (Credits)	Course – 3 (Credits)	Course – 4 (Credits)	Course – 5 (Credits)	Course – 6 (Credits)	Credits	Contact Hours	
									Week	Semester
I	I	Communicative English (3)	Second Language (2)	History & Culture (2)	Core Optional – 1 (3+2) (Discipline)	Core Optional – 2 (3+2) (Discipline)	Core Optional – 3 (3+2) (Open)	22	28	420
	II	Mathematics & Statistics (2)	Computer Applications (3)	Science & Civilization (2)	Core Optional – 1 (3+2) (Discipline)	Core Optional – 2 (3+2) (Discipline)	Core Optional – 3 (3+2) (Open)	22	28	420
II	III	Communicative English (3+2)	Second Language (2)	Human Values & Ethics (2)	Core Optional – 1 (3+2) (Discipline)	Core Optional – 2 (3+2) (Discipline)	Core Optional – 3 (3+2) (Open)	24	32	480
	IV	Practical Accountancy (2)	Computer Application (3+2)	Environmental Science (2)	Core Optional – 1 (3+2) (Discipline)	Core Optional – 2 (3+2) (Discipline)	Core Optional – 3 (3+2) (Open)	24	32	480
III	V	Elective – 1 (3) (Discipline Centric)	Elective – 2 (3) (Inter-disciplinary)	Elective – 3 (3) (Open)	Core Optional – 1 (3+2) (Discipline)	Core Optional – 2 (3+2) (Discipline)	Core Optional – 3 (3+2) (Open)	24	30	450
	VI	Elective – 1 (3) (Discipline Centric)	Elective – 2 (3) (Inter-disciplinary)	Elective – 3 (3) (Open)	Core Optional – 1 (3+2) (Discipline)	Core Optional – 2 (3+2) (Discipline)	Core Optional – 3 (3+2) (Open)	24	30	450
		18	18	14	30	30	30	140	180	2700
In addition to the above One can earn assigned credits for co-curricular and extra-curricular activities during the course of study;										

The Elective Courses may be Discipline Centric or Interdisciplinary or Open (within or across the disciplines) and the Foundation Courses consists of Mandatory and Optional Category with Generic Backdrop can pursue in Non-formal Mode;

Co & Extra-curricular Activities: Seminars/ N.S.S/ N.C.C/ Games & Sports/ Volunteer Service / Any other activity suitable to award credits;

The UG consists of 120 - 140 credits distributed over Core, Elective and Foundation Courses;

**Core courses** – 72 - 90 credits and offers 12 - 15 credits/semester, among these 48 - 60 credits are discipline centric and 24 - 30 credits are open stream;

**Elective courses** - 18 credits and offered only in final year at 9 credits/semester, among these discipline centric, interdisciplinary and open module streams are made available;

**Foundation courses** - 32 credits, among these the courses are classified under compulsory foundation and generic (optional) foundation streams, the first year consists of 7 credits/ semester and second year consists of 9 credits/semester.

Teaching Contact Hours per Semester can vary in the range of 450 – 500 Hours out of 600 Hours and the remaining 100 - 150 hours are allocated for Co and Extra-curricular activities for holistic development of students.

In order to qualify for a three-year under graduate degree a student must acquire a minimum of 120-134 credits (Minimum Credits: Core – 90, Electives – 18, Foundation – 26 and a Total of 134)

A student may be allowed to seek the elective/foundation courses either under formal or non-formal mode, whereas core courses must be under formal mode.

### 2.3.1e-ii Under Graduate Program Attributes:

Acquire wide range of knowledge of facts, theories, principles, processes and concepts, in broad context within a subject / field;

Attain rational and practical skills required to generate solutions to specific problems in a field;

Develop good logical, math and communication skill, understanding of social, economical, political and natural environment, well in collecting and organizing information;

### 2.3.1f-ii Guiding Principles for Designing of Under Graduate Courses:

- ✓ As Pedestal to PG Courses (40%)
- ✓ Subsiding to Arts/Social Sciences/Sciences/Commerce (10%)
- ✓ General Awareness about Social aspects of life (10%)
- ✓ Preparing Students for Job Oriented Courses linking with Job Market (20%)
- ✓ Acquisition of Basic/Personal and Professional Skills (10%)
- ✓ Transforming into Entrepreneurs (10%)

**Table – 3 Course Combinations:**

No.	Classified Streams	Compulsory	Primary Combination	Secondary Combination
1.	Life Sciences	Botany / Zoology	Chemistry	Biochemistry/Bioinformatics/ Biotechnology/Genetics/ Microbiology etc.,
2.	Physical Sciences	Physics	Mathematics/ Chemistry	Astronomy/Astro Physics/ Computer Science/Information Science/Statistics/ Electronics/Instrumentation etc.,
3.	Chemical Sciences	Chemistry	Mathematics/Physics /Botany/Zoology	Chem-Informatics /Analytical /Applied /Food /Geo /Soil/ Environmental /Industrial Chemistry/Statistics/Instrumentation etc.,
4.	Earth Sciences	Geology	Chemistry/Physics	Mathematics/Geography/Geo-Physics /Statistics/Informatics etc.,
5.	Mathematical Sciences	Mathematics	Statistics/ Computer Science	Applied Mathematics/ Electronics/ Chemistry/ Physics/ Information Science
6.	Social Sciences	Economics / Political Sc.,	History / Public Administration	Psychology/Statistics/Philosophy/Anthropology/Sociology etc.,
7.	Commerce	Accountancy	Taxation / Computers	Banking / Marketing / Insurance / Finance / Trade / Economics / Statistics etc.,
8.	Languages	English	Regional / Foreign / Classical / Oriental	Literature/ Communication/ Mass Communication / Journalism

### 2.3.1g-ii Operation for Exercising of Course Combinations at UG Level:

The core courses - there should be three optional combination is a pre-requisite, however one has to choose two optionals from the specified stream, one with compulsory and second is primary combination, the third optional may be chosen from either the primary in full or secondary combination or open stream across the disciplines in full or in parts depends upon the interest.

Compulsory / Mandatory combination is based on the type of streams identified by the UGC for UG programs – tentatively it may have 30 credits on the whole to be considered as a major.

Primary combination is an ancillary to the compulsory combination and tentatively it may have minimum of 24 credits. However one can choose more than one course from the listed subjects in primary combination and the second course can be accommodated in place of secondary combination. However one has to acquire a minimum of 24 credits in particular discipline to be eligible for admission into Post Graduate program in that specific discipline.

Secondary combination listed subjects are optional choice and may be chosen as core / electives based on individuals interest or can be opted under open stream and may be offered in the range of 12 – 24 credits.

This may be followed for all Under Graduate Courses for its effectiveness.

Note: The Job / Career Oriented Courses or Vocational Courses may be substituted in place of Secondary Combination.

### 2.3.1h-ii UGC Guidelines for Minimum Course Requirements for UG Programs:

The CBCS may be implemented in all Central/State Universities subject to the condition that all the stakeholders agree to common minimum credits for Core Courses under UG Program.

As per UGC norms 120 Credits are the minimum requirement to complete a Degree program and ~ 140 Credits for Honors Program. However the total credit score earned will not exceed 160 credits for UG Honors and 140 credits for UG Regular Program degree.

Total Number of Core papers for all Universities has to be same as specified by the UGC for each of the UG Honors and UG Regular Programs.

A UG degree in Science may be awarded if a student completes 4 core papers each in three disciplines of choice in addition to 2 each for discipline specific electives, however in Humanities / Arts / Social Sciences / Commerce may be awarded if a student completes 4 core papers each in two disciplines of choice, in addition to Generic Elective and Discipline Specific Elective.

A UG degree with Honors in a discipline may be awarded if a student completes 14 core papers each of theory and practical in that discipline, in addition to 4 papers each of theory and practical of discipline specific electives, 2 papers each of interdisciplinary and generic electives.

The university/Institute may plan the number of seats per elective paper as per the availability of faculty expertise, facility and infrastructure. A student can opt electives more than the prescribed.

The University has the freedom to offer certain courses under non-credit mode in order to fulfill their existing instructional structural norms, while fulfilling the UGC requirements of total credits.

**Optional Dissertation or Project Work in place of one Discipline Specific Elective paper (6 credits) in 6th Semester may be allowed at UG level.**

Wherever a University requires that an applicant for a particular M.A./ M.Sc./ Technical/ Professional course should have studied a specific discipline at the undergraduate level, it is suggested that obtaining **24 credits** in the concerned discipline at the undergraduate level may be deemed sufficient to satisfy such a requirement for admission to the M.A./ M.Sc./ Technical/ Professional course. However in respect of multi/interdisciplinary courses a cumulative credits among the allied disciplines may be considered admission eligibility.

**Table – 4: UG Program Instructional Structure – Based on UGC devised Model Structure:**

Yr	Sem	Course – 1 (Credits)	Course – 2 (Credits)	Course – 3 (Credits)	Course – 4 (Credits)	Course – 5 (Credits)	Course – 6 (Credits)	Credits	Contact Hours	
									Week	Semester
I	I	Communicative English (4)	Second Language (4)	History & Culture (2)	Core Optional – 1 (4) (Discipline)	Core Optional – 2 (4) (Discipline)	Core Optional – 3 (4) (Open)	22	22	330
	II	Computer Applications (4)	Mathematics & Statistics (2)	Science & Civilization (2)	Core Optional – 1 (4+2) (Discipline)	Core Optional – 2 (4+2) (Discipline)	Core Optional – 3 (4+2) (Open)	26	32	480
II	III	Communicative English (3+1)	Second Language (2)	Human Values & Ethics (2)	Core Optional – 1 (4+2) (Discipline)	Core Optional – 2 (4+2) (Discipline)	Core Optional – 3 (4+2) (Open)	26	33	495
	IV	Computer Application (3+1)	Practical Accountancy (2)	Environmental Science (2)	Core Optional – 1 (4+2) (Discipline)	Core Optional – 2 (4+2) (Discipline)	Core Optional – 3 (4+2) (Open)	26	33	495
III	V	Elective – 1 (2) (Discipline)	Skill EC – 1 (2) (Open)	Generic Elective – 1 (2) (ID - Centric)	Core Optional – 1 (4+2) (Discipline)	Core Optional – 2 (4+2) (Discipline)	Core Optional – 3 (4+2) (Open)	24	30	450
	VI	Elective – 2 (2) (Discipline)	Skill EC – 2 (2) (Open)	Generic Elective – 2 (2) (ID - Centric)	Elective – 3 (4+2) (Discipline)	Elective – 4 (4+2) (Discipline)	Elective – 5 (4+2) (Open)	24	30	450
		20	14	12	34	34	34	148	180	2700
In addition to the above One can earn assigned credits for co-curricular and extra-curricular activities during the course of study;										

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### **2.3.2 Part-II - Credit Framework for Skill Development:**

The vocational courses designed under CFSD must be a mix of knowledge and skill components useful for marketplace, especially to incorporate the requirements of various sectors of economy and employment in its curriculum, in an innovative and flexible manner while producing well groomed graduates. It is envisaged that professionally qualified graduates with a sound knowledge of their core disciplines and expertise in a concerned skill will have more openings in service, industry and self-employment sectors. To meet this challenge the incorporation of skill oriented and value added, add-on courses in colleges/Universities to be opted by students as a parallel sub-discipline while pursuing their degree level education.

There will be credit based modular programs, wherein banking of credits for skill and general education components shall be permitted so as enable for multiple exit and entry.

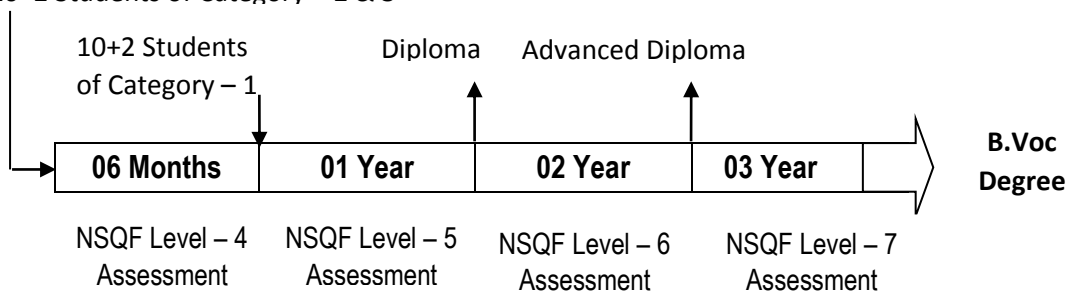
- Provide an opportunity for students who wish to supplement their General Education with Skill Development Courses for Multiple Pathways into job market through Vocational Education and offer credits for general and skill components broadly in the ratio of 40 : 60.
- Classify the Skills into Life coping Skills especially the Computer and Communication Skills and Sector Skills that covers specific Job roles to attract the students or motivated youth to acquire vocational skills needed for employment;
- Sector Skills Education is offered at 7 levels among 21 recognized sectors for a Certificate, Diploma, Post / Advanced Diploma and Degree starting from IX standard in School;
- Identify the skill gap using Labor Market Information System (LMIS) so that they remain updated on the requirements of the workforce for the local economy;
- Design course and curriculum in constant dialogue with the industry, establish standards with respective Sector Skill Council(s), train the trainers, and formulate the assessment and certification of trainers and students;
- Develop Nationally Standardized, Acceptable and Internationally Comparable Skills Qualifications Framework that enables to integrate with Skills Assessment Matrix for Vocational Advancement of Youth for General Education Arts/Science/Commerce Degree;
- The following formula may be used for the credit calculation for various components of the vocational courses:
  - General Education credit refers to a module/unit by which the course work is measured. It determines the number of hours of instructions required per week in a semester system. [One credit is equivalent to one hour of teaching (lecture or tutorial) or two hours of practical/field work per week, accordingly 14-15 periods of 50 - 60 minutes each or 28 – 30 hours of workshops / labs in a semester. However for internship/field work/self-learning based on e-content or otherwise, the credit weightage for equivalent hours of study shall be 50% of that for lectures / tutorials].
- A range of initiatives need to be introduced to recognize the prior learning for seeking equivalence of qualifications and to expand the opportunities of pursuing vocational education through formal education stream with ICT and Industry participation.
- Promote the mobility from Diploma to Degree and Degree to Post Degree Programs in acquisition of desirable skills and knowledge and explore the possibility of incorporation of the Credit Framework for Skill Development by mainstreaming Vocational Education into existing Formal System of Education to facilitate such transitions in a large scale through Credit Flexibility, Equivalence, Recognition, Accumulation and Transfer.

- Minimize the Graduate unemployment problem in India and Make the Graduates Job ready through Sector Skill Courses, as at any given point of time some 12 million graduates are looking for jobs and review the courses periodically in accordance with the changing requirements of the industry and regional / national economic priorities.
- The Credit Framework Skill Development (CFSD) / Credit Framework Skill Based Vocational Courses (CFSBVC) selectively focus on following sector skill courses for Under Graduate Programs in IT and IT Enabled Services (Computer Operator / Programmer), Banking and Finance (Small Savings / Accounting), Hospitality and Tourism (Hotel/ Tourism Operator), Media and Entertainment (Reporter / Anchor) and Telecom (Customer Care Executive at Call Centres) among 21 identified Skill Sectors for various job needs initially, subsequently it may be expanded other sectors based on pre- requisite qualifications acquired as per SSC's norms and also certified by the Central / State Boards;

### 2.3.2a Salient features of CFSD / CFSBVC:

- Each NSQF level results in skill certification by the trainers/institutions and level certification by the School / College / Board / University as the case may be;
  - Each level of certification is approximately 1000 Hours / annum or 900 Hours / annum
  - Each level of certification is a combination of Skill Hours and General Education Hours
- All Vocational Skill Content would be sector specific based on each job role and each level of learning a credit frame-work will be developed by the certification awarding bodies in consultation with SSC's to meet the dual objectives;
  - Achieving skill competencies of that level and
  - General education learning requirements of equivalent level
- Skills acquired at each higher subsequent level are added on to skills at the earlier level and are treated as higher order skills over the level of skills acquired at the earlier level;
- 80% of entry level workforce in specified priority economic sectors are from level I – IV and the education content would be as per the CBSC Content or State School Board;
- Vocational Skill Sectors are grouped along with the General Education content at Level V, VI, and VII is modeled on the common content as prevalent in various Universities / Institutions for Science, Arts, or Commerce streams;
- This will further facilitate multiple entry and exit at each level (or within a level) with the bundle of credits earned clearly certified by the institution offering courses.

10+2 Students of Category – 2 & 3



### 2.3.2b Industry Linkages:

The B.Voc program must be conceived in association with industry linkages to provide on job training for students to develop requisite skills to enter the world of work. The industries are increasingly operate through decentralized and diversified umbrella structures for its progress and sustainability. Therefore they need institutional support for man power requirements and also to compete in tune with the changing needs of the society. The educational restructuring is necessitated to meet the requirements of expanding economic sectors in general and industry in specific so as to create skilled man power at various levels of vocational education. There are about 21 identified sector skill councils catering to offer programs in different sub-sectors.

Certain professions demand skill sets that are cut above the rest of knowledge and competence, these so-called “elite” skills demand excellence through imagination, innovation and creativity. People with these “elite” skill set automatically become either self-employed or entrepreneurs.

### 2.3.2c Classification of Courses under CFSD / CFSBVC:

The Courses offered under CFSD / CFSBVC can be classified into Skill Component (60%) and General Component (40%), the credits regarding *skill component* will be awarded in terms of NSQF level certification, which will have 60% weightage of total credits of the course as per UGC norms, however it has to be devised in accordance with the structural norms of a regular degree when transformed under CBCS. However the *general education component* will be assessed by the concerned institutions themselves as per the norms for university / collegiate education.

**Table – 3: Programs for Formal and Non-Formal Streams:**

NSQF	Community College	Non-formal		Who is Eligible	Formal		Who is Eligible	B.Voc Stream	
		Vocational	General		Vocational	General		Vocational	General
I	I	200	250* + 550	Any	200	800	VII	200	800
II		300	250* + 450	Any	250	750	IX	250	750
III	II	400	100 + 500	Above + RPL	400	600	X	400	600
IV		400	100 + 500		450	550	XI	450	550
V	III	600	200 + 200	Above + RPL	550	450	XII	500	500
VI	IV	700	150 + 150	Above + RPL	600	400	Diploma	550	450
VII	V	800	200		750	250	Adv. Dip.	700	300
Note: Entry into Non – Formal Stream is allowed, who never gone to School / College;					( ± 50 Hours flexibility on the suggested number of Hours in level V, VI and VII of formal stream)				

Every Level is approximately 1000 Hours of Instruction / Annum in combination of Skill and General Education Hours and All Vocational Skill Content is Sector Specific'

The size of the each class / batch should not exceed 30 students;

Credits may vary from level I – VII in a linear fashion in order to take care of the Education Content at levels I, II, III and IV are as per CBSE / SBSE / SBTE and V, VI & VII Levels to be on the lines of Conventional University Model with a Recognition of Prior Learning (RPL) and also assess and certify the skill competence for the selected job roles through the respective Sector Skill Councils (SSC's) / Director General of Employment & Training (DGET);

Vocational education at school for levels I - IV is imparted through Open Schools which are under National Institute of Open Schooling to marginalized and desired students. Those who have not with Vocational Component at school level may complete it through National Open School mode.



A Three Year Degree or Diploma requires 135 – 150 Credits, however a new Degree / Diploma Program in Vocational Education requires 150 to 165 Credits

Vocational Skill Sectors are grouped under Science, Arts and Commerce Streams and any B.Voc Program must be linked to Industry with concerned Skill Sector and also can tie-up with SKP's recognized by NSDC/SSC's or OSDC's recognized by the University.

Harmonize and standardize vocational qualifications in order to produce workforce with comparable and competitive knowledge, skills and competencies;

Issues pertaining to Credit Allocation, Acceptance, Accumulation, Flexibility, Equivalence, Transfer and Complete Professional Mobility (Vertical or Lateral) are to be in Place;

Enable to acquire the skills without always having to undergo formal study alone;

The courses would be planned/ designed in collaboration with the industry to have provision of multiple entry and exit at various levels culminating up-to a research degree, where University – Industry – Institute – Innovation Incubator facilitate the necessary infrastructure for research development and entrepreneurship among vocational stream graduates. Further this enables for work for coordination between the higher education system and industry to transform it into a Center of Excellence (CoE) for skill development in specialized areas;

The following instructional structure consists of minimum 3000 instruction hours over a period of 3 years is envisaged for B.Voc programs by relating the type of education, its affordability, and the needs and interests of students, with the requirements and demands of industry and employers.

**Table – 4: B.Voc Program Instructional Structure:**

Yr	Sem	Course – 1 (Credits)	Course – 2 (Credits)	Course – 3 (Credits)	Course – 4 (Credits)	Course – 5 (Credits)	Course – 6 (Credits)	Credits	Contact Hours	
									Week	Semester
I	I	Communicative English (3)	Second Language (2)	History & Culture (2)	Optional – 1 (3+2) (Discipline)	Optional – 2 (3+2) (Discipline)	Vocational (4+2) (Sector Stream)	24	30	450
	II	Computer Applications (3)	Mathematics & Statistics (2)	Science & Civilization (2)	Optional – 1 (3+2) (Discipline)	Optional – 2 (3+2) (Discipline)	Vocational (4+2) (Sector Stream)	24	30	450
II	III	Communicative English (4+2)	Second Language (2)	Human Values & Ethics (2)	Optional – 1 (3+2) (Discipline)	Optional – 2 (3+2) (Discipline)	Vocational (4+2) (Sector Stream)	26	34	510
	IV	Computer Applications (4+2)	Practical Accountancy (2)	Environmental Science (2)	Optional – 1 (3+2) (Discipline)	Optional – 2 (3+2) (Discipline)	Vocational (4+2) (Sector Stream)	26	34	510
III	V	Elective – 1 (3) (Open Stream)	Vocational (4) (Sector Stream)	Vocational (3+2) (Sector Stream)	Optional – 1 (3+2) (Discipline)	Optional – 2 (3+2) (Discipline)	Vocational (4+2) (Sector Stream)	28	36	540
	VI	Elective – 2 (3) (Open Stream)	Vocational (4) (Sector Stream)	Vocational (3+2) (Sector Stream)	Optional – 1 (3+2) (Discipline)	Optional – 2 (3+2) (Discipline)	Vocational (4+2) (Sector Stream)	28	36	540
		26	16	18	30	30	36	154	200	3000
<p><b>Note:</b> In addition to the above a B.Voc. Degree student need to acquire 6 - 8 credits spread over 3 years from Industry Internship; Further one can earn assigned credits for co-curricular and extra-curricular activities during the course of study;</p>										

The Core Courses of B.Voc Degree composed of Optional Component [Discipline Stream - B.A./B.Sc./B.Com.] with Fixed Combinations and Vocational Component - Industry linked Sector Specific Stream; The Elective Courses may be chosen from Open Stream needs to have linkage with Vocational Component; However the part of Foundation Courses to be covered under Vocational Component; and also Offer Entrepreneurship course as the focused area for Vocational Graduates to opt the course under Elective – Open stream;

Field Activity includes Industrial Experience, Community Service, Project Work, Co and Extra-curricular Activities such as NSS/NCC /Games and Sports /Performing or Fine Arts /Debates etc.,

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The B.Voc Course consist of 162 Credits distributed over Optional (Discipline Centric), Vocational (Sector Specific) and Foundation Courses, and also to setting common principles and guidelines for nationally recognized qualification system and standards;

Optional (Discipline Centric) courses offered under General Educational Stream, thus, shall have 60 credits whole and 10 credits/semester;

Vocational courses must be of sector specific linked with industrial cluster activity in the region, shall have 90 credits on the whole and offered in all the three years with variable number of credits / year. (First - 10, Second - 12 and Final - 18 credits / semester each) and further it also consists of 6 - 12 credits of industry internship spread over three years;

Foundation courses shall have 16 Credits on the whole offered in I & II year at 4 credits/semester.

Teaching Contact Hours per Semester will be in the range of 450 – 500 Hours out of 600 Hours excluding industry internship 240 Hours spread over three years and the remaining hours are allocated for Co and Extra-curricular activities for holistic development of the student.

The multi-level entry and exit system shall allow the candidate to seek employment through horizontal mobility after any level and rejoin education as and when feasible to upgrade qualifications / skill competency through vertical mobility.

This structural framework enables for an effective skill delivery framework in the education system which, without diluting content, strives for a better balance between the knowledge-based and the skill-based workforce of the country.

### **2.3.2d Approval and Regulation of Skills Development in Higher Education**

- Building Capacity for Management of Vocational Courses
- Developing Accreditation System for Vocational Faculty/Courses
- Certification of Skills – Create State Level Capacity for Standards Testing
- Operationalizing Credit Framework for Skill Based Vocational Courses
- Regulation regarding Faculty, Courses, Standards, Certification and Mobility
- Vocational Skill Sectors must be Grouped under either Science, Arts or Commerce
- Recognition of Prior Learning with issues pertaining to multi point entry and exit between vocational education and conventional system of education with job markets.

### **2.3.2e B. Voc Program Attributes:**

To make students work ready with appropriate knowledge, practice and attitude, so as to gain suitable employment or become entrepreneurs of the society to accelerate the Nation's Economy;

To develop a command of wide ranging specialized theoretical and practical skill, involving variable routine and non-routine context within a field of work or study;

To acquire a varied kind of cognitive and practical skills required in understanding of social, political, economical and natural environment in order to generate solutions for specific problems for a particular field of study;

To impart work-based training / practical training related to one of the major subjects, to create the willingness and capacity to work with one's own hands, and develop skills and self-reliance;

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## 2.4.0 Implementation Strategy:

Implementation Strategy consists of two components i.e. Operational Model and Funding Model for the success of implementation tools based on strategic tools.

### 2.4.1 Operational Model:

It is an implementation strategy of a process breaks into different components to accomplish its function / mission. Basically both CFSBVC and CBCS is effectively implemented through following eight specific intervention components;

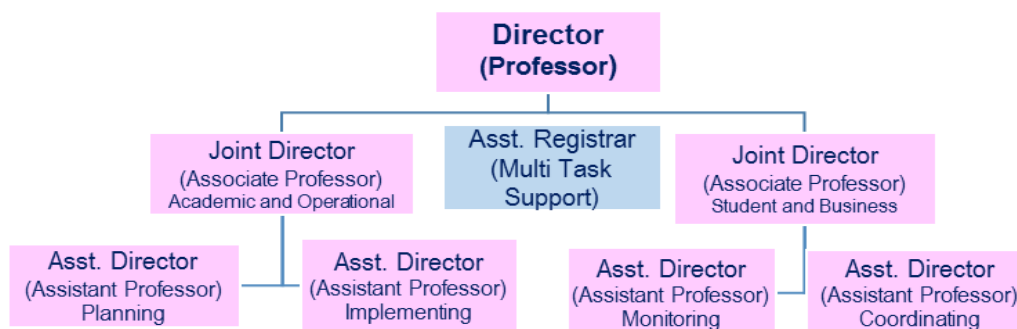
- **Institutional Structure**
- **Faculty Resources**
- **Infrastructure**
  - Academic Infrastructure
  - ICT Infrastructure
  - Skill Development Infrastructure
  - Building Infrastructure
- **Academic Aspects**
  - Admission Process
  - Curriculum Development
  - Course Delivery
  - Qualification Equivalence
  - Assessment and Certification
- **Collaborations**
  - Industry – Institute Liaison
  - Network with Professional Bodies
- **Student Empowerment**
  - Career Counseling & Guidance
  - Placement & Training
  - Scholarships & Loan Facilitation
- **Affiliation / Franchise Policy**
- **Leadership Matrix**



#### 2.4.1a Institutional Structure:

Institutional Structures are established for effective Governance, which enables to minimize the gap between academic and administrative setup to meet the emerging challenges. The success and acceptability of the programs depends upon the establishment of proper Institutional Structures for effective Administrative functioning to channelize the persons and resources for optimum realization of mission and its objectives. The institutional structure will facilitate in ensuring quality, establishing accountability, encouraging private participation, enabling internationalization etc., The managerial pattern of Institutional Structure must necessarily have an inbuilt flexibility to adapt itself quickly to respond for changing needs of the society. It should serve the purpose of carrying out innovations and new experiments that can contribute to the economic prosperity of the Country in general, and the region in particular.

Therefore, it is important to lay down the broad pattern of Institutional Structure consisting of Planning, Implementing and Monitoring Mechanisms.



### 2.4.1b Faculty Resources:

The expectations from the higher education system have undergone a significant change over the last few years. The key thrust has been on improving the employability prospects of the graduates and also improving the quality and quantum of research. Therefore, it becomes imperative to involve experts, professionals and researches from diverse fields to contribute to the emerging needs of higher education system. The Indian higher education system is poised to make itself more relevant to the needs of industry and employment opportunities keeping in mind the rapid changes in job requirements and needs of the economy.

The faculty training and capacity building is going to be carried out to enhance the skill, knowledge as well as to create right kind of attitude required to play a role of teacher. It will not only increase the competency with respect to knowledge but also in terms of technology, research, teaching and pedagogy. This will enable them to work as facilitator as well as motivator for students. The UGC also recommends that the people with expertise in concerned subject be involved as visiting /adjunct /affiliated faculty. The existing faculty in related disciplines are to be suitably sensitized in specialized areas offered through work-shops, short term orientation courses and seminars etc. for which financial assistance could be provided by the UGC.

The renowned professors, research scientists, officials, experts, top consultants, professionals, working individuals and experienced managers have to be invited for the teaching activities.

Teaching and research organizations supported by bodies like ICAR, ICSSR, CSIR, ICMR, DRDO, Central and State Universities, etc.

Central and state public sector undertakings (PSUs), corporate organizations, business corporations, NGOs and professional associations.

Civil servants (IAS / IPS / officials from Central and State) and professionals and officials from professional councils and statutory bodies like UGC and AICTE, both serving and retired;

Skill training providers recognized by National Skills Development Corporation and / or Sector Skill Councils in their respective area for skills education and training;

NRIs and PIOs working with overseas academic, research and business organizations or having a demonstrated interest in Indian issues.

Skilled professionals working in organized and unorganized sectors known for their hands-on skilling techniques and expertise.

- **Academic Professors:** A regular faculty working in various departments, associated with academic activities of the university.

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- **Research Professors:** A scientist working in scientific organizations, universities, industries etc., are considered or the faculty appointed under FRP of UGC;
  - **Administrative Professors:** People who are in administrative positions can share their knowledge, expertise and experiences with the students;
  - **Guest Faculty:** Qualified, Experienced, Retired faculty can act as Guest Faculty;
  - **Adjunct Faculty:** Qualified, Experienced, Actively serving or retired individual working / worked in an organization / institute / industry;
  - **Affiliated Faculty:** Only experienced persons capable of communicating the knowledge effectively and associated with small and medium businesses can act as affiliated faculty.
  - **Visiting Faculty:** Qualified faculty / individual with professional expertise and not on the regular rolls of University / Institution may be appointed as visiting faculty to strengthen and supplement the teaching and research.

#### **2.4.1c Infrastructure:**

The Infrastructure is to house / accommodate the demand to be created by the planned growth in activities and enrolment due to expansion of academic programs and sanction of new research projects. The physical improvements proposed should reflect a sound, enriched, coherent and motivating environment that is to be experienced by its stakeholders that may influence towards the positive attitudes, behavior and social etiquettes, which can be echoed in terms of values and philosophy of the University/Institution. Infrastructure is considered as tangible asset and is a vital for academic and research needs, which enable the University / Institution to be competitive, creative and productive. The creation of modern Physical Infrastructure is one of the parameters that contribute to bridge quality gaps in institutional functioning for achieving the excellence. Though it is of non- recurring nature but will lead the institution to undergo substantial progress and modernization for uplifting themselves to become part of the mainstream universities / institutions in the country in terms of infrastructural facilities as a part of utility services for all stakeholders. This includes Academic, ICT, Skill Development, Building and Sports Infrastructure.

##### **2.4.1c-i Academic Infrastructure:**

The University/Institution must view libraries as the information and learning resource centers in its march towards a knowledge society. These Libraries must be modernized through automation and computerization and also equipped with digitized and e-Library facilities for easy and fast access to knowledge resources. The Library must get the facility for accessing to online e-journals, e-books through UGC-INFONET Services. The Library Infrastructure need to be expanded with Institutional repositories, which are mainly digital collections that capture and preserve the intellectual output of institutional stakeholders and also scholarly communication. There should be an enhancement in academic infrastructure, especially the number of titles and volumes by 5% in a plan period to meet the performance radar stipulated by the UGC.

##### **2.4.1c-ii ICT Infrastructure:**

The ICT infrastructure facilitates to use innovative technologies and tools for enhancing the access and improving the performance of the administrative system through high speed internet connectivity including Wi-Fi services. Further it enables for provision of governance and services on demand through seamless integration across the Departments and Institutions. The ICT enabled education services could be successfully integrated into the total learning process for the relevant courses of study for increased learning outcome through learner centric approach.

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The University must make use of NKN – NME-ICT facility for improved campus and help education become modern and accessible to all through Optic fiber connectivity, LAN and Wi-Fi facility, students can learn through self-mode, attend classes and participate in discussion forums online, also provides e-Learning platform for Massive Open Online Courses (MOOCs), Study Webs of Active-Learning for Young Aspiring Minds (SWAYAM) and National Project on Technology Enabled Learning (NPTEL) at their convenience at any time and place. This also enables to develop computer lab and language lab in addition to maintenance of knowledge and information management through web servers, mail servers, data servers etc.

The above features may facilitate the administrative reforms to explore the new possibilities and seize the better opportunities for inclusive governance and sustainable education. Further the ICT may be used for biometric attendance of students for enhancing effectiveness and efficiency of learning process. The advent of digital media has revolutionized the ICT landscape and enable the Universities/Institutions to be part of 'Digital India' Project of MoIT, Government of India.

This kind of ICT Infrastructure need to be updated / upgraded and modernized for every plan period with new investments based on optimum utility of the services extended over the years.

#### **2.4.1c-iii Skill Development Infrastructure:**

The emphasis on skill development for Make-in-India campaign is accomplished with provision of Skill Development Infrastructure, which basically consists of a '**Workshop**' and '**Instrumentation Center**'. These two enable the individual to undergo the much required training to develop necessary skills needed for employment and livelihood. The training on various skills likely to generate large employment opportunities at comparatively lower capital cost and reduces regional imbalances and assuring more equitable distribution of national income and wealth.

The possession of '**State-of-Art Equipment**' is also a measure for quality and excellence. The Skill Development Infrastructure also needed to be maintained, up-graded and replaced with the sophistication that takes place over the years based on log-book entries indicating the number of hours per day such equipment is put to optimal use by faculty and students. The establishment of Equipment Maintenance and Replacement Fund is also a measure for Performance Radar.

#### **2.4.1c-iv Building Infrastructure:**

The creation of modern building infrastructure is the benchmark for quality in terms international dimension. This should facilitate the academic needs in addition to administrative facilitation and amenities. The physical improvements proposed should reflect a sound, enriched, coherent and motivating environment that is to be experienced by its stakeholders. The new construction must adhere the National Building Code (NBC) norms and ensure the facilities are accessible and available to meet the academic and co-curricular mission of the University. The expansion of Physical Space must be in tune with new programs as per Performance Radar of UGC and also an index for quality measure for expansion of 5% of existing built up area in a Plan Period.

#### **2.4.1c-v Sports Infrastructure:**

Sports is one of the forms that teaches about differentiation among right and wrong deeds and promotes orderly and disciplined life. It is a means of physical and mental development besides creating harmony, equal rights and opportunities in the country. Sports is like a matrix where persons of all creeds, color, religion and socio economic status have the level playing ground and is a glowing example of national integration. The creation of sports infrastructure for the use of multi-purposes enables for IRG and plays a crucial role to support and groom talented sports persons to represent India in international and national elite sports and games events.

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### 2.4.1d Academic Aspects:

The Academic Aspects of Higher Education should meet the growing demands of community and specialization, to provide flexibility in the specific combination of courses, to facilitate mobility among courses, programs and institutions, to enable multiple entry and exit options between employment and education, to update and modernize syllabi, to integrate work/practical experience, to standardize examination, to rationalize the evaluation and should encourage in the participation in creative activities of co and extra-curricular nature with the learning processes.

It covers all the 'Academic Reforms' includes the admission process, curriculum development, course delivery, qualification equivalence, assessment and certification.

#### 2.4.1d-i Admission Process:

Prescribe ceilings in intake for admission to postgraduate, professional and Ph.D. courses, keeping in view of the availability of faculty and access to infrastructure resources. Preferably common admission procedures to be adopted for all regular courses / programs having maintaining an appropriate ratio of graduate and postgraduate / research students, etc.;

- UG courses is based on merit in qualifying degree,
- PG and Professional courses is based on entrance/admission test;
- PhD courses is based on merit in qualification, eligibility test, interview and prior research performance in terms of publication/presentation/fellowship and or reference;
- Certain Professional / Vocational courses merit in aptitude test followed by reference;

Adhere to Reservation Policy for Equity Assurance and Affirmative Action;

Admission to UG and PG Programs in specific disciplines / degrees is based on acquiring desired number of credits in specified disciplines at +2 Level or Degree level. To seek admission in PG programs at least 24 credits for science disciplines, 18 credits for social sciences and 12 credits for languages streams is mandatory at UG level except for interdisciplinary programs.

Students can seek admission into certain courses or acquire credits under non-formal mode to the extent of 40% of total course component covering Elective and Foundation courses from any of their choicest colleges or institutions recognized by the university by paying a special affiliation fee, stipulated by the university. They are even allowed to fulfill the requirements of a degree, either from a single institution or from group of institutions i.e they are allowed to take the courses or training or guidance for each individual course from the best of best available. There should be a credential evaluator to certify the qualifications acquired by the enrolling students.

The admission process for Vocational Courses under CFSD will be as follows for UG programs;

The admission is open to three types of learners possessing either 10 + 2 qualification or certification level 4 as per the Qualification Packs (QP's) of Sector Skill Councils (SSC's) norms of National Skills Qualification Framework (NSQF) for first semester of skill based degree courses offered in the institutions recognized as Community Colleges / B.Voc Degree programs / Deen Dayal Upadhyay KAUSHAL Kendras:

- **Category – 1:** Students already acquired NSQF certification Level 4 in a particular industry sector and opted for admission in the skill based courses under NSQF in same trade with job role for which he / she was previously certified at school level.
- **Category – 2:** Students who have acquired NSQF certification Level 4 but may like to change their trade and may enter into skill based courses in a different trade.

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- **Category - 3:** Students passed 10+2 examination with conventional schooling without any background in vocational training.

The learners belonging to **Category 1** can seek admission directly, however **Category 2** and **3** are required to undergo bridge courses with curriculum developed by select institutions / KAUSHAL Kendras, which arranges skill intensive training and teaching during the first semester of B.Voc degree program and will be assessed at the end of first semester and certified for NSQF Level 4 of skill competency by concerned SSC.

The university/constituent/affiliated institution shall make available to all students a brochure listing all the courses offered by it. The information so provided shall contain the title of the Course, the Semester in which it is offered, credits for the Course, prerequisites if any, the name of the Faculty etc. Detailed syllabi shall be made available along with almanac /common calendar in the University / College websites and ensure that institutions adheres to almanac.

**Lateral Entry:** Students who are admitted laterally at University/Institution, have to pass courses decided by concerned faculty/equivalence committee as pre-requisite courses, if any which shall be considered as audit courses, these credits shall not be considered for calculating the performance indices. Only equivalent credits of previous University will be considered as earned credits in the last semester of respective program for the award of the degree.

#### **2.4.1d-ii Curriculum Development:**

- The Curriculum Development under the CBCS and CFSBVC in terms of NHEQF / NSQF:
- Define the
  - No. of Contact Hours to be spent by student per week/semester for different programs
  - No. of Credits to be acquired by the students for obtaining a certificate/ diploma/ advanced diploma/ degree (Regular/Distance/Honors/Vocational)
  - Unique Course Code through Specific Numbering
  - Scheme of Instruction (Teaching – Learning Method), Examination and Evaluation
  - Objectives and Key Learning Outcomes of the courses offered
- Follow Credit Based Semester System;
- Enable for provision of credit transfer across courses for academic flexibility & progression;
- Differentiate the Knowledge, Skill and Competency based courses among Core (Mandatory and Optional), Elective (Discipline Centric, Interdisciplinary and Open Option) and Foundation (Mandatory and Optional on Generic backdrop) streams;
- Incorporate the socio-economic trends and scientific happenings in the country and abroad.

The curriculum development must be based on key learning outcomes, however the learning outcome may be described as a statement of what a learner is expected to know, understand and be able to demonstrate after completion of a process of learning and also to indicate the overall output of a program. The learning outcomes may be written for a single module based, course component wise, complete specific program, and qualification level, or anything in between.

The Learning outcomes are often divided into

- Subject specific learning outcomes, which are related to the subject discipline
- Generic learning outcomes, which are transferable from one academic discipline to another

Further the learning outcomes of a program are useful for faculty for designing the courses, students to choose the program and employers to recognize the qualifications.



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#### **2.4.1d-iii Course Delivery:**

- All the courses must be delivered and designed to fit for semester mode.
- Courses/Programs are conceived not only based on the targeted students and also on interested one's to be accessible in both the formal (60%) and non-formal mode (40%) through lifelong learning in which all agencies within society become providers of education and offer courses for all age groups;
- The Universities / Institutions may decide on the percentage allocation of course offerings within the existing limitations available under formal and non-formal mode, however the core courses are to be offered under formal mode only, whereas elective and foundation courses can be opted / offered under non-formal mode;
- Courses to be delivered / developed by Individuals / Departments/Institutions / Partnership with VE/HE Providers / Collaborations with Professional Bodies / Networked with HE Research Institutions/Industry;

#### **2.4.1d-iv Qualification Equivalence:**

- Qualification (Degree/Diploma/Certificate) acquired from other awarding Institutions/ Universities/ Boards is a pre-requisite for admission into courses of the University that meets the standardized procedure / criteria stipulated for substantial equivalence to recognize the academic value;
- The title of the program/course must include the official name of degree/diploma/ certificate held by the applicant in comparison with the UGC/University stipulated qualifications;
- The program must conform with the syllabi, teaching and learning strategies [content wise, mode of learning, duration of study (credits/years), and assessment methods (marks/ grades)], that encompass the specific attributes defined by respective professional councils for particular qualification and generic attributes defined by the University/ UGC/ AIU;
- Provide ways to compare qualifications for quality assurance and recognition across the nation or abroad for training needs, educational expansion and employment opportunities;
- Establish statutory basis at University/State/National levels for determination of Qualification Equivalence to be eligible for access, transfer and progression in career;

#### **2.4.1d-v Assessment and Certification:**

All assessments will be standardized in accordance with the UGC guidelines on Examination Reforms for General Education and Whereas for Vocational Education need to conform to the assessment guidelines laid down by the concerned Sector Skill Council (SSC) for each Qualification Pack (QP) in respect of skill development courses.

Any candidate can undergo assessment any number of times for qualifying for a particular job role, at any approved assessment agency, however he/she has to undergo formal instruction / training as a prerequisite for assessment.

Assessment Fees charged to candidates for each assessment is capped as Rs. 1,000/-.

The competencies acquired at each level would be assessed and certified by the awarding bodies with the approval of SSCs.

- Competency Based Certification System (CBCS):
  - Skill Tests conducted by National Level Bodies such as SSC or NSDC;
- Performance Based Certification System (PBCS):
  - Knowledge Evaluation carried out by the Examining Body of the Institution;

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- Recognition of Prior Learning (RPL):
    - Experience / Qualifications acquired outside the learning path, and credits obtained through formal learning;
  - Recognition of Acquisition of Competencies (RAC):
    - After assessing their prior learning to acquire credits through modular courses and certification would be done on the basis of cumulative credits earned corresponding to the NVEQF or NSQF levels;

#### **2.4.1e Collaborations:**

The collaborations are envisaged for mutual benefit through optimal utilization of tangible and intangible assets of participating institutions and organizations. The collaborations are based on trust and partner compatibility, common and unique purpose in partnership, shared governance and joint decision making, clear understanding of roles and responsibilities, open and periodic communication and availability of adequate financial and human resources.

There are three stages in successful collaborations, the first is a precondition stage where collaborators come together to form the relationship for mutual benefit, the second is the process stage where collaborators interact and make decisions, and the third is the outcomes stage where collaborators assess the effectiveness of their efforts and adapt to change.

These collaborations may lead to the development of human resources in the universities / institutions, which likely to helps to attract new talent to the universities, and also makes an impact on teaching, curriculum development, and creation of new facilities in the universities.

#### **2.4.1e-i Industry – Institute Liaison:**

To explore and identify common avenues of interaction with Industry as per the requirements of the institution. Establish **Industry Institute Interaction Cell (IIIC)** to be responsible for designing the roadmap for interaction with Industry recognizing the inherent strengths as well as the weaknesses of the institution. The Government organizations in the region also can participate in the Industry- Institution - Interaction-Activities, especially the B.Voc programs offered under Sector Specific Industry cluster need to have Industry linkage.

- a) To identify and facilitate Guest Lectures, Interactive workshops, conferences, seminars, Brain Storming Sessions, Technical Discussions, Curriculum Development, review etc. with Members of the Industry, outside Experts, eminent personalities at regular interval.
- b) To conduct Industrial Training, Orientation Courses, Industrial Visits etc for faculty and students at regular intervals and provide Continuing Education opportunities for Industry.
- c) To facilitate professionals from Industry to work as visiting faculty in institutions and also short or long periods deployment of faculty from institutions to Industry for gaining industrial experience and/or work on projects in Industry.
- d) To showcase the expertise available through scientific and technical fairs and highlight research facilities accessible with the institution.
- e) To promote revenue generating activities for the institution like Lab Testing, Calibration, consultancy and R&D etc. and enable joint research work involving faculty and students.
- f) To assess periodically the scientific and technological scenario/ happenings in India and abroad in order to translate it into action for taking up future R&D work.
- g) To organize seminars and guidance workshops on leadership roles, entrepreneurship, market needs and risks and implementation of national socio-economic policies.

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#### **2.4.1e-ii Network with Professional Bodies:**

Network with Professional Bodies/Organizations enables the institutions to access the resources, strive for continual growth, and adhere to the latest best practices, standards and code of ethics. It helps the individual to acquire and demonstrate updated knowledge and skills for professional advancement in the discipline concerned through continuing education programs.

The Professional Bodies like CII, FICCI and other scientific professional bodies or associations like IETE, CSI, AIICHE, IIE, AIIME, AIChE etc., may facilitate academic and research collaborations with its members. These bodies can organize workshops, conferences and other academic activities jointly to update the knowledge on emerging trends and the professional challenges ahead to face for finding solutions through curricular and research aspects.

#### **2.4.1f Student Empowerment Activities:**

The student empowerment activities aims at the sustainable progression in a most meaningful way with the help of a three pronged strategy for smooth integration into the society.

##### **2.4.1f-i Career Counseling and Guidance:**

The Institution should focus on to facilitate the following through specialized functional center;

- To be a resource center for offering guidance and counseling with free accessibility and internet based global connectivity and exchange of information on matters pertaining to professional and career advancement and also on the course enrollment decisions a student makes, which often leads to expectations that course work will transfer or not, depending upon the acknowledged student aspirations and goals.
- To assist students to develop their academic and career interests, and achieve their short and long-term goals through individual counseling and Guidance;
- To arrange interface meetings among students, alumni, and recruiters for empowering students with life long career decision-making skills.
- To provide resources and promote activities to facilitate the career planning process and future career options and how to implement successful job search strategies.
- To promote discipline, healthy outlook and positive attitudes towards achieving national integration and removal of narrow provincial preferences and prejudices

##### **2.4.1f-ii Placement and Training:**

The Placement and Training Center will be an indispensable pillar of the University that is being identified as one stop facility for arranging campus visits and conduct of recruitment process requirements such as group discussions, tests and interviews besides catering to other logistics.

- To perform the role of a liaison, facilitator and counselor for placement and impart training in soft skills and also related activities between the employers and University.
- To place the student in competitively good companies by identifying their knowledge skills, attitude matrices of every individual student;
- To involve the corporate trainers and recruiters to overcome the handicaps of students for entering into the corporate job market and industry.
- To make necessary arrangements to improve the skills in the areas such as portfolios, Mock Interviews, Group discussions, Etiquette, Presentation and Placement advisory measures to enhance employability of urban and rural students.
- To be aware of about the emerging trends, professional events and job profiles.

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- To create job profiles, identifying areas of training and formulate sequence of activities to meet the training schedules for appropriate placement.

#### **2.4.1f-iii Scholarships and Loan Facilitation:**

Universities / Institutions should create Scholarship Fund to cover at least to the extent of 40% of intake with support of Alumni / Philanthropic Donations / Sponsorships with a provision for Matching Grant. It is worthwhile to note that these Universities / Institutions only see need based eligibility and merit while granting admissions and awarding scholarships.

Adopt innovative financing options to become one-stop-shop financial aid offices, which include partial or full fee waiver, deferred options, apprenticeships, internships and student loans.

Students who take up these courses should be encouraged with sponsored Scholarships / Fellowships / Endowment / Foundation Awards or Loans from Banks and Financial Institutions.

The students should be encouraged for the award of multiple scholarships/fellowships on the basis of merit and socio-economic background of the student and also based on the relevance of the project, which he/she intends to carry out during his/her studies.

They also should be encouraged for other mode of financial assistance through part-time employment opportunities to a maximum of 20 hrs/week with the concept of earn while you learn.

All the government scholarships based on socio – economic conditions of the students are to be offered as community service awards subject to the participation in community service activities.

#### **2.4.1g Affiliation and Franchise Policy:**

Affiliation is a process of certification of quality standards adherence by an institution, which desires to deliver the education and training those who seeks to learn and acquire a qualification. There are number of organizations intends to facilitate in dissemination of knowledge, acquisition of skills and developing the professional competency of the learners. Some Professional Bodies, which offers professional development programs equivalent to the curriculum stipulated for a course can seek affiliation of the university for the purpose of accumulation of credits.

A service oriented organization/institute/agencies that have credibility and reputation in distinguished service to the society and particularly to the people of the locality with a minimum period of five years of proven service and not individuals alone should be issued NOC to start Optional / Occupational Skill Development Center. These Centers should be established and run only by the Registered Societies/ Trusts rooted in Community Based Activities that have public interest and service mindedness at heart. This center / agency shall submit the Trust Deed copy and other related documents along with the application.

The organization/institute/society/trust/agency starting the Optional / Occupational Skill Development Center must submit to the evidence of tie-up with Industries and other organizations with the employment potential where internship and hands on experience will be provided at the time of application to the University.

The certifying bodies may comply with the guidelines issued by the regulatory bodies and obtain accreditation from the National Accreditation Board for Certification Bodies (NABCB) set up under Quality Council of India (QCI). Wherever the university/college may deem fit, it may issue a joint certificate for the courses with the respective Sector Skill Councils.

The empaneled / affiliated organization / body can offer courses to students in Elective / Foundation courses under non-formal mode in addition to the Optional Papers under Open stream or Vocational stream and not for fixed combination of core courses, however the empaneled organization / institutions offering skill education under vocational programs should

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obtain the certification from NSDC/SSDC and courses offered under open stream must obtain the affiliation of the University/SCHE.

#### **2.4.1h Leadership Matrix:**

The quality of higher education can be improved is through the twin approaches of high academic leadership and a requisite governance structure. The right leadership and proper Infrastructure both can be equated as a measure for quality. The possession of high academic credentials ensures transparency, efficiency and accountability in administration, whereas in the absence of admirable academic credentials, it will be a challenging trait to earn the trust and confidence of the academic fraternity. The academic leadership penetrates honesty and integrity in the individual that have a fiercely independent mind and take decisions in the best interest of the system and majority stakeholders. It is better that those with academic leadership are trained to be administrative leaders in the University system through executive education programs, so as enable to understands stakeholders aspirations and institutional concerns to deliver the best with a vision mandate for development and strategic choices for institutionalization.

The center and state need to invest resources in developing a talent pool of such leaders, who can benchmark the standards of quality of higher education and ensures the academic growth of a nascent institution. The academic and administrative leadership among the faculty members can help to effectively handle their roles and responsibilities in the best integral interest of institution. Most importantly the success of governance is dependent upon the kind of leadership that the institution receives. There is a need for professionalizing academic administration by building the competencies in the domain of leadership, crafting applicable strategies, developing relevant systems and processes, inculcating appropriate skills and attitude at all levels in the administration. Institutional heads are generally chosen from among academics with certain expectations, who come across a plethora of situations requiring innovative handling.

#### **2.4.2 Funding Model:**

The expenditure on education is considered as an investment for future growth and human capital development and also a social obligation of the state. However the increased demand for higher education and now rely more heavily than ever on private capital to help students earn their degrees. Expanding enrollment in colleges and universities around the world has created a new and vital role for private finance in paying for higher education. Further the higher education is considered as a good channel for social mobility.

The Funding Model is envisaged to explore the Institutional Finances from a Non-State Resources to operate the organization for effective functioning. Strategically deploy the creation of corpus funds to improve the entire system of higher education.

The finances are important factor for quality and sustainability of the specific program delivery.

The sources of finances may be as follows;

- **Fee Based**
  - Fee Structure – Three tier
- **Other Source Based**
  - Funding Supported - Key Source
  - Partnerships / Networking / Collaborations Supported - Revenue Sharing Mode
  - Corporate Social Responsibility (CSR) Supported - MoU's / MoA's
  - Alumni Supported - Endowment Oriented

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#### 2.4.2a Fee Based:

- The Government / University should fix the fee for each course either based on Unit cost or Credits offered for particular type of Course (General/Professional/Technical)
- There should be a three tier Fee structure
  - State Students or those who defined as Locals
  - Other States or Non-Locals / NIQ / Covered under Sponsored / Management Framework
  - NRI's / Foreign Nationals
- The tuition fee and examination fee to be fixed up by the university will be in accordance with the number of credits equivalent to courses a candidate has registered in the given semester. Each credit of the course should be charged Rs: 250/- to 500/- for university / government institution and Rs: 500/- to 1000/- for a private college / institution.
- A special fee has to be collected, if the enrollment is not done within the two months of admission to the degree and also to be charged an additional fee, if the requirements of the course are not completed within the stipulated time.
- An affiliation fee has to be charged if the student intends to fulfill some of the course credits covered / entitled under non-formal mode can seek from an outside registered institution / organization not located in the campus or not in the jurisdiction of the university are normally permitted, subject to fulfill stipulated conditions devised by the admitting University / Institution as per course requirements.

#### 2.4.2b Other Source Based:

- **Funding Supported - Key Sources**
  - Ministry/Department/Funding Agency (UGC/DBT/DST/CSIR/ICMR/ICAR) on Mission mode basis;
  - Alumni / Foundation / Philanthropic Charity / NGO Sponsored Support;
- **Partnerships / Networking / Collaborations Supported - Revenue Sharing Mode**
  - Tie-up with Skill Knowledge Providers (SKP's) / Optional Skill Development Centers (OSDC's) on revenue sharing basis;
  - Networked with Research Organizations (State / National Laboratories) / Professional Bodies (IEEE/ CSI/ IICHE/ ISTE etc.,) Government Organizations (NI-MSME/ CITD/ CIPET/ CMET etc.,) on revenue sharing mode
- **Corporate Social Responsibility (CSR) Supported - MoU's / MoA's**
  - Public / Corporate Sector companies through MoU's/MoA's for developing human resources in specialized skills for specific sectors of industry, service and agriculture may support the program under Corporate Social Responsibility
- **Alumni Sponsored –Endowment Oriented**
  - Alumni run endowment funds generated during their re-union and other meetings/ events.

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### 3.0.0 CONCLUSIONS:

- The academic programs that are devised to be based on 'Academic Reforms' envisaged by the UGC as a policy initiative provides an opportunity for both the UG and PG students to expand their knowledge and skills in the area of their interest;
- The CBCS is well suited to all the students, who are interested in gaining the knowledge in other and various subjects with an interdisciplinary approach, doing some courses from arts, science, commerce, law, education, engineering and technology. At the same time some of the subjects can even help the students from different backgrounds to gain sufficient knowledge to take part in various competitive exams (State and Central Civil services) and enable them to compete well in corporate sector employment in addition to establishing a distinguished record and progression in their careers including entrepreneurship and also connect the knowledge to life outside the curriculum or institution;
- The CFSD / CFSBVC enables to development of relevant courses in higher education that promotes such educational training, which contributes to the development of human resources instrumental for economic, social and cultural advancement of the country;
- These degrees will help the students in choosing a profession, rather than obtaining a qualification after completion of their studies and further it enable the graduating student to emerge as a leader in the chosen profession in terms of acquisition of abilities to be managerially innovative, ideally competitive and technically productive;
- Establish Institutional Structures at State, University and College Levels Planning, Implementing and Monitoring of both CBCS and CFSBVC and identify the five institutional linkage clusters in the state based on Economic Sectors of GDP;
- Adopt the UGC guidelines for both CBCS and CFSBVC in terms of Semesterization of Instruction, Credits based Curriculum, Examination Standardization and Grading Evaluation with a feasibility to fix the specified number of Credits in available contact hours and working days depends upon the type of the courses being offered by the University / Institution;
- The Universities should adopt the best practices adopted in best of the International Universities where the University takes care of all financing needs of the students.
- Identify at least five industrial clusters for designing better course offerings through linkages
- Arriving at Uniformity of Course offerings for Credit Acceptability, Equivalence, Flexibility and Transfer;
- Course offerings to be based on knowledge, skills and competency in addition to transform the individual for practicing the principles of progressive attitudes and values;
- Design course content and offer programs under Elective and Foundation courses through both formal (Institutional Instruction) and non-formal (Distance and Open Education System) mode;
- Develop Digital Campuses and fully integrate with ICT enabled services;
- Provide intervention measures to meet the attendance requirements for courses offered under formal mode to enable the overall development of student;
- The proposed framework is developed on further refinement, consolidation and standardization based on the inputs of Osmania and Kakatiya Universities that had already implemented the CBCS.

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#### 4.0.0 RECOMMENDATIONS:

1. Create Institutional Structures on the lines of KAUSHAL centers (ANNEXURE – I) at State / University / Institution levels with defined terms of reference and functions. Further launch Mission Mode Centers at State Level for effective Implementation and Monitoring;
2. Adhere the Affiliation Norms of UGC and Empanel Occupational / Optional Skill Develop Centers under University Jurisdiction through MoA / MoU and Mandate Industry-Institutional linkages (ANNEXURE – II);
3. Strengthen the Academics with establishment of minimum number faculties and departments with desired number of teaching faculty in appropriate cadre ratio and also maintain the non-teaching staff ratio and engage adjunct / affiliated / visiting / guest / joint faculty as per UGC norms to meet the performance radars. (ANNEXURE – III)
4. Establish Curriculum Development Cells at State/University/Autonomous Institutions level to monitor the periodic revision of curricula and provide broad guidelines for Semesterization, Develop Broad Framework for Course and Credit Offerings, Devise Course / Subject codes, Standardization of Examination and Evaluation Process, Admission Process, Instructional Structure and Mandate Course combinations and Options for Core, Elective and Foundation courses for CBCS and Skill Education component courses as per SSC's recommendations and General Education component as per UGC norms for effective implementation of CBCS and CFSBVC as per NHEQF and NSQF (ANNEXURE - IV). Create Virtual Learning Facilities through ICT infrastructure and develop e-Content for Foundation and Elective courses so as enable to opt such courses under non-formal mode;
5. Prepare norms of standardization of qualifications for examination, evaluation and certification as per NSQF or CFSBVC and NHEQF or CBCS (ANNEXURE – V)
6. Develop five industrial cluster incubation centers with specific sectors of economy in envisaged five industrial corridors of the state to house in identified University campuses. (ANNEXURE – VI). Further Promote collaborations and networking with both industries and institutes for targeted development of skill education and research innovation;
7. Facilitate financial resources for viability and sustainability of the programs and build corpus funds for Institutional Development, Faculty & Staff Development, Research Development and Scholarship & Loan Facilitation etc., (ANNEXURE – VII)
8. Devise the Implementation Strategy in a Phase wise manner with appropriate infrastructural and financial support (ANNEXURE –VIII)
9. Mandate the Accreditation System as a Quality Assurance Measure to Grade the Institutions;
10. Distance and Open Universities / Centers should develop course content and offer programs eligible under non-formal mode, the Professional (Law, Health, Agriculture, Veterinary, Horticulture, Management, Teacher Education etc.) and Technical (Engineering and Technology) Universities / Centers can devise the course equivalent content in the form of modules / credits and offer it through continuing education program for specific sector skill courses under elective open stream option; Further it may evolve a policy / system to award credits for extra / co-curricular activities for NCC/NSS/Sports/Hobby Courses.
11. Initiate Administrative Reforms for effective implementation at University and Institutional levels and adopt Strategic Tools as a first step of 'Academic Reforms';
12. Make extended consultations and deliberations among all the stakeholders of higher education system for effective implementation and approve in various academic bodies of the University / Institution.



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### Stakeholder Relationship in Higher Education System / Plan

