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

BACKGROUND:

Education is vital for India's competiveness, productivity, economic growth, and social stability. Therefore every aspect of higher education is being reorganized and remodeled to cover qualitative inclusive expansion such as accreditation, access, equity, funding, infrastructure, curricula, faculty, leadership, governance, 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 the global practices. However 1990 onwards most countries of the world have adopted a more structured approach to recognition of qualifications that are globally compatible, since the global mobility of student is increasingly gaining importance, the issues of equivalence of degrees and qualifications offered by universities across the world is going to become more complex and requires a comprehensive and holistic solutions. The UNESCO and WTO framework directed the all the universities of the member countries about need to recognize the degree and qualification offered by the universities of other member countries. Many countries worldwide are in the process of introducing qualification frameworks, though the theoretical principles of all frameworks remain largely similar, however the objectives of launching the frameworks vary considerably. Some of the examples of variation include: the emphasis is on increasing the relevance of learning outcome and 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 systems to evaluate the equivalence of qualifications and designing degree programs for international mobility. Governments are increasingly turning to qualification frameworks as a policy tool for achieving reforms. The twenty five years of reforms initiatives in the academic arena of higher education have, rather than simplifying, further complicated the higher education system in the country. As things stands today, the higher educational system has become quite variable in terms of extent of academic reforms adopted by them. Consequently the issue of compatibility of higher educational qualifications with those of not only other countries of the world but also within the country has become important.

Higher education was increasingly perceived as an empowering tool for the students and also as a means to overcoming in equalities in social hierarchy, patriarchy and other cultural prejudices. It is time for talented minds from diverse backgrounds to debate and make liberal inquiry into democratic structures in shared context that at the same time accommodates contending ideologies and viewpoints. Further such an endeavor will also serve as a source of new knowledge and skills with a space for creativity and innovations, where new knowledge takes shape in response to social and personal needs. This can be accomplished when an interdisciplinary approach is preferred over fragmentative approach for knowledge creation and universalization. Further design and offer courses under cafeteria approach in tune with job market dynamics.

India has a great opportunity to meet future demands of the world. India can become the worldwide sourcing hub for skilled workforce. The challenges for India get magnified as it needs to reach out to the million plus workforce ready population, while facing an ever increasing migration of labor from agriculture (59% employment against 20.8% of GDP) to manufacturing (17.2% employment against 22% of GDP) and service sector (23.8% of employment against 57.2% of GDP) indicating highest of employment access is in informal sector. Therefore, it is essential to develop skilled workforce through designing of new courses under Credit Framework for Skill Development (CFSD) scheme to achieve maximum productivity in these 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. This should be done keeping in view the changing needs of the community, an important concern voiced more strongly in recent times. 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 the adequate policy formulation and clear implementation guidelines are necessary to ensure the learner's autonomy for choice, flexibility and mobility.

RATIONALE:

The Universities and Institutions need to attract talent minds and retain fertile brains in order to achieve excellence, while progressing through innovation. The strength of the university system lies in the 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, resists for any reform or change that may be brought in or enforced in the system of learning process, however they need to transform into centers of human excellence to know, to learn and to understand the value of level of knowledge and education being imparted.

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 ICT revolution enabled the role of institution to be less significant due to access to internet and ease of using social network sites, thereby the first two aspects are being covered large extent to overcome the short falls or supplement the existing system of teaching-learning method, where the explicit knowledge can be shared readily. However the third aspect makes the students compel to understand the things and events in such a way that where no problem should go unsolved without access to community practice and presence of reflective thinkers, who deals with the beliefs, ideals, values, interests and trust, where the acquisition of tacit knowledge is possible through observation, imitation, exercise and training with appropriate practical experience in the relevant context. The challenges of knowledge creation, dissemination and application will rope for a life-long learning activity through experience and experimentation to better prepared for the 21st century challenges. These practices allow translating the young minds towards unique creativity and innovation, which

obligates to accept a mentor and use the field / laboratory to address the unmet needs that are accessible, affordable, available and administerable.

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. Career Based Education – 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 the basic skills of communication, 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.

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 become equipped to compete in the marketplace. Most contemporary higher learning systems are more or less disconnected with the essential requirements of the workplace needs and 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 differences 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 the global standards. In view of this, the MHRD envisioned to develop National Higher Education Qualification Framework (NHEQF) that essentially seeks to provide a standardized framework in terms of minimum entry qualification, program durations, teaching-learning processes and learning outcome aimed at national and ultimately universal

recognition and 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. Accordingly the Choice Based Credit System (CBCS) is devised under 'Academic Reforms' by the UGC to enable for 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 total student's efforts and learning outcomes.

The **National Assessment and Accreditation Council (NAAC)** also gives special importance to ascertaining whether a Choice Based Credit System (CBCS) is in place in any given institution when assessing it. Though Universities are autonomous in academic matters and are free to determine and prescribe curricula for designing their academic programs, yet all universities in the country are at the same time required need to follow the prescribed norms specified by the UGC for particular degree, nomenclature, 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 the 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.

The Government of India has a commitment to integrate skill development in the 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 that enables one to train 500 Million people by the end of 2022, out of which 50 Million 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 the 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 in 150 Million 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). This enables the seamless integration of pursuit of academic knowledge and practical vocational skills through life-long learning processes and also provides a sound system of certification of vocational skill providers and assessment of skills acquired by students.

A **National Skills Qualifications Framework** is a formal mechanism for recognizing award of 'Certificate' / 'Diploma' / 'Advanced Diploma' / Degree to the successful learners in both the 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.

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 all the more important 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 in 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.

As the objectives of these two schemes 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. 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, QPs, and 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.

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'.

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 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 state has been classified into five industrial clusters based on its employment potential and economic and natural resources.

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, and separation of research and teaching.

In view of this the state should adopt the '**Academic** and **Administrative Reforms**' envisaged by the UGC in the context of transformation from Massification to Universalization of Higher Education System, while adhering to **Access, Equity** and **Quality** policies as per the directions of the MHRD, Government of India.

As per XII Plan Strategic Approach on 'Academic and Administrative Reforms' spells about two important components to be addressed i.e. demand side intervention and supply side initiatives in order to keep the Indian Higher Education in sync with rest of the world. 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 Development (CFSD), which mainly focuses on the relevance and value of the degree and course offerings by the Higher Education 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.

METHODOLOGY:

The purpose of Methodology is to facilitate the implementation of Guidelines issued by the UGC and MHRD over the implementable tools **CBCS** and **CFSD** towards accomplishing **'Academic Reforms'** through **Strategic Tools** and **Implementation Tools** Approaches that meet the supply side initiatives.

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 Development (CFSD) is offered as a Multi Modular Program for General Education to make the courses more attractive and adds greater academic value in nurturing the inherent talent among students for knowledge acquisition across the disciplines and prepare them with required employable skills through learner centric approach to foster human abilities for better acceptability, viability and sustainability of the programs envisaged under '**Academic Reforms**' by the UGC.

The significance and requirements of reforms and initiatives were recognized through

1. Semesterization of Curricula;
2. Restructuring of Syllabi in the forms of Modules;
3. Standardization of Examinations; and
4. Switching over from Numerical Marking System to Grading System;
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 by accessing to 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 requirements of 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;

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

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 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 Education, Open and Virtual Learning, Self-Learning, Continuing & Extension Education, etc.)

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 outcome in order to 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 outcome and also facilitate for easy exit and entry system.

- To develop a curriculum based on **Core, Elective** and **Foundation** courses under **CBCS**, **Vocational** and **General** Education components under **CSFD** that focuses **knowledge, skills** and **competency** modules to provide utility oriented instruction that matches the student scholastic needs & aspirations;
- To place emphasis on current knowledge, national and international advances, and relevance of new ideas, concepts and innovations in the concerned discipline in keeping with the thrust of the program;

- To enable the individual to acquire necessary knowledge and skills 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.

Standardization of Exams:

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

- To Maintain Set Standards and Quality.
    - Adhere to time-frame in conduct of examinations;
    - Evolve adequate norms and standards and approaches to assessment;
    - Adopt continuous internal assessment and devise the components of internal assessment;
    - Evaluation process should be verifiable to ensure transparency, fair play and accountability;
    - Prepare question papers more comprehensively among the topics covered;
    - Develop a question bank for knowledge based courses and Question Paper consists of recollectable (70%) and understanding (30%);
    - Question Papers to be formatted, moderated and key is prepared for skill based courses for external evaluation;
    - Skill based Question Paper consists of knowledge (50%), understanding (30%) 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
- To be Recognized by other Universities and Employers

Numerical Marking to Grading System:

Grading System of Evaluation 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.

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;

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

Letter Grade	Achievement Scale	Grade Point
O	Outstanding	10
A+	Excellent	9
A	Very Good	8
B+	Good	7
B	Above Average	6
C	Average	5
P	Pass	4
F	Fail	0
Ab	Absent	0

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.,

Value Addition through Relevant Skill Education:

There is a genuine need for a provision of value addition 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.

The 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 designed must be a mix of knowledge and skill components useful for marketplace, especially to incorporate 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 professionally qualified graduates with a sound knowledge in core courses and expertise in 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.

This facility make it possible to declare the knowledge and skills available with a person and their up-gradation to a certifiable level of qualifications. 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.

The 'Supply side Initiatives' can be accomplished in a better way, when flexibility in course offerings (Formal and Non-formal) is allowed for acquisition of knowledge and skills for obtaining a qualification or degree.

The formal mode (not less than 60%) of learning provides well-resourced and structured education with defined learning outcomes to value the certification process. However the non-formal mode of learning enables for multiple pathways of organized learning, which includes complimentary aspects of learning process that promotes livelihood and income generating programs and also the supplementary aspects of learning process that supports remedial learning through work integration. Further 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%) enables for flexibility.

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 actual class room teaching at five working days a 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 a 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					Attendance Credits		
Type of Degree	**Regular**	**Distance**	**Honor's**	**Vocational**	**Activity / Evaluation**	**Theory (3)**	**Practical (2)**
Under Graduate	**135 -150**	**120 - 135**	**150 - 165**	**155 - 165**			
Post Graduate	**90 - 100**	**75 - 90**	**100 -120**	**110 - 120**	**Attendance**	**1**	**1.0**
Advanced Diploma	**50 - 60**	**50 -60**	**-**	**60-80**	**Continuous Evaluation**	**1**	**0.5**
Diploma	**40 - 50**	**40 – 45**	**-**	**40 - 60**	**End Exams**	**1**	**0.5**
Certificate	**20 - 30**	**20 - 25**	**-**	**20 - 40**	**>90% - A; > 80%<90% - B and 75% - C**		

Reflection of Grades for Attendance: 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;

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.

Key Words:

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

Choice Based Credit System (CBCS): The CBCS provides choice for students to select from the prescribed courses (core, elective or minor or soft skill courses).

Competence: means 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

Course: Usually referred to, as 'papers' is a component of a program. All courses need not carry the same weight. The courses should 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.

Credit Based Semester System (CBSS): Under the 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 Point: It is the product of grade point and number of credits for a course.

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.

Fee: means the fee prescribed by the university based on credits offered for a particular course of study/program from time to time.

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

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 knows, understands and is able to do on completion of a learning process, and which would be expressed in terms of knowledge, skills and competence;

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.

Program: An educational program leading to award of a Degree, diploma or certificate.

Recognition of Prior Learning (RPL): is the process of recognizing previous learning, often experiential, towards gaining a qualification

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. 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);

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

Transcript or 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.

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

IMPLEMENTATION TOOLS:

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 International 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.

- 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;

Salient Features of CBCS:

- It holds the all ingredient features of 'Academic Reforms' with a scope for flexibility in course offerings;
- Minimizes the wide disparity among discipline wise enrollment;
- Adopts Credit and Grading System of Evaluation with an advantage of relative weighing of performance to facilitate the Universal Recognition of Degree for expanding Employment and Educational Opportunities;

Classification of Courses under CBCS:

Courses offered in a UG / PG program may be classified into three kinds: **Core, Elective and Foundation**.

1. **Core Course:-** There may be a Core Course in every semester. This is the course which is to be compulsorily studied by a student as a core requirement to complete the requirement of a program in a said discipline of study.
2. **Elective Course:-** Elective course is a course which 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
    - Nurtures student's proficiency/skill.

An elective may be “Discipline centric” opted to enhance the proficiency in specified area of chosen discipline within a faculty or may be “Interdisciplinary” preferred from a converging disciplines that enables to advance fundamental understanding of concepts beyond single discipline within or across the faculties or an “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 further classified into two kinds: Compulsory Foundation and Generic Foundation. ‘Compulsory Foundation’ courses are designed based upon the content that leads to Knowledge enhancement, which are mandatory for all disciplines. ‘Generic Foundation’ courses are all-purpose value-based and aimed at person-making or humane education, which are optional.

Course Operation:

- Each course shall be assigned a specific number of Credits;
- A Core course should compulsorily be studied by a candidate as a Core requirement so as to get the degree in a said discipline of study. Two courses each of Core level are compulsory for receiving a specific degree;
- A student will have to get enrolled at a 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. She/he will have a choice of selecting such courses from the same department/faculty or the other department/faculty depending upon his/her interest, need, 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;
- The student should seek core courses under formal mode, whereas the elective and foundation courses can be opted in non-formal mode;
- It is the University/Institution that should enable the flexibility of offering courses;
- 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;

The Courses offered under Arts & Social Sciences (M.A.,) / Sciences (M.Sc.,) / Commerce (M.Com.,) are classified into Core, Elective and Foundation Streams; The Core Stream are Discipline Centric with Fixed Combinations and to be accessible in a formal mode, The Elective Stream may be Discipline Centric or Interdisciplinary or Open (within or across the disciplines) and the Foundation Stream consists of Mandatory and Optional with Generic Backdrop can pursue in a Non-formal Mode;

Co-curricular / Extra-curricular Activities: Seminars / N.S.S / N.C.C / Games & Sports / Performing or Fine or Creative Arts / Volunteer Service / Any other activity recognized for awarding Credits;

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	Optional – 1 (4) (Discipline)	Optional – 2 (4) (Discipline)	Optional – 3 (4+2) (Discipline)	Optional –4 (4+2) (Discipline)	Elective – 3 (2) (Open)	Communicative English (2)	24	28	420
	II	Optional – 1 (4) (Discipline)	Optional – 2 (4) (Discipline)	Optional - 3 (4+2) (Discipline)	Optional – 4 (4+2) (Discipline)	Elective – 3 (2) (Open)	Computer Applications (2)	24	28	420
II	III	Elective – 1 (3) (Discipline)	Elective – 2 (3) (Interdisciplinary)	Optional - 3 (4+2) (Discipline)	Optional – 4 (4+2) (Discipline)	Elective – 3 (3) (Open)	Personality Development (3)	24	28	420
	IV	Elective – 1 (3) (Discipline)	Elective – 2 (3) (Interdisciplinary)	Optional - 3 (4+2) (Discipline)	Optional – 4 (4+2) (Discipline)	Elective – 3 (3) (Open)	Community / Project Work (4)	25	36	540
		14	14	24	24	10	11	97	120	1800
In addition to the above One can earn assigned credits for co-curricular and extra-curricular activities during the course of study;										

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;

The PG Course consist of 97 credits distributed over Core, Elective and Foundation Courses;

Core courses, thus, shall have a total of 64 credits with variable number of credits in first and final Year. The first year consists of 20 credits/semester and final year consists of 12 credits/semester;

Elective courses shall have a total of 22 credits and offered in both first and final Year. The first year consists of 2 credits/semester and final year consists of 9 credits/semester;

Foundation courses shall have a total of 11 credits and the first year consists of 2 credits/semester and second year consists of 3 and 4 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.

Post Graduate Attributes:

- 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 in complex activities, involving unpredictable study/work situations.

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)	Optional – 1 (3+2) (Discipline)	Optional – 2 (3+2) (Discipline)	Optional – 3 (3+2) (Open)	22	28	420
	II	Mathematics & Statistics (2)	Computer Applications (3)	Science & Civilization (2)	Optional – 1 (3+2) (Discipline)	Optional – 2 (3+2) (Discipline)	Optional – 3 (3+2) (Open)	22	28	420
II	III	Communicative English (3+2)	Second Language (2)	Human Values & Ethics (2)	Optional – 1 (3+2) (Discipline)	Optional – 2 (3+2) (Discipline)	Optional – 3 (3+2) (Open)	24	32	480
	IV	Practical Accountancy (2)	Computer Application (3+2)	Environmental Science (2)	Optional – 1 (3+2) (Discipline)	Optional – 2 (3+2) (Discipline)	Optional – 3 (3+2) (Open)	24	32	480
III	V	Elective – 1 (3) (Discipline Centric)	Elective – 2 (3) (Inter-disciplinary)	Elective – 3 (3+2) (Open)	Optional – 1 (3+2) (Discipline)	Optional – 2 (3+2) (Discipline)	Optional – 3 (3+2) (Open)	26	34	510
	VI	Elective – 1 (3) (Discipline Centric)	Elective – 2 (3) (Inter-disciplinary)	Elective – 3 (3+2) (Open)	Optional – 1 (3+2) (Discipline)	Optional – 2(3+2) (Discipline)	Optional – 3 (3+2) (Open)	26	34	510
		18	18	18	30	30	30	144	188	2820
In addition to the above One can earn assigned credits for co-curricular and extra-curricular activities during the course of study;										

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.

The Courses offered under B.A., / B.Sc., / B.Com., are classified into Core, Elective and Foundation Streams; The Core Stream 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 among the Core disciplines is essential for completion of the program and eventual certification of degree in a particular faculty. On the other hand students enrolled for a particular degree program or course or disciplines 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;

The Elective Stream may be Discipline Centric or Interdisciplinary or Open (within or across the disciplines) and the Foundation Stream 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

The UG Course consist of 144 credits distributed over Core, Elective and Foundation Courses;

Core courses, thus, shall have a total of 90 credits and offers 15 credits/semester, among these 60 credits are discipline centric and 30 credits are open stream;

Elective courses shall have a total of 22 credits and offered only in final year at 11 credits/semester, among these discipline centric, interdisciplinary and open module streams are made available;

Foundation courses shall have a total of 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 hours are allocated for Co and Extra-curricular activities for holistic development of students.

Under Graduate Attributes:

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

Attain cognitive and practical skills required to generate solutions to specific problems in a field of study;

Develop good logical, math and communication skill, under- standing of social political and natural environment, well in collecting and organizing information;

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.

- 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 education component and skill component broadly in the ratio of 40 : 60.
- Classify the Skills into Life coping Skills and Sector Skills that covers specific Job roles to attract the students and 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), develop course, design curriculum, establish standards, 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 General Education Arts/Science/Commerce Degree;
- The following formula may be used for the credit calculation for various components of the 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 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.
- 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, 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 CFSD 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;

Salient features of CFSD:

- 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 onto skills at the earlier level skills 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 as the case may be;
- 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.

Classification of Courses under CFSD:

The Courses offered under CFSD 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'

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 SSCs / DGET;

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

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 (3+2)	Second Language (2)	Human Values & Ethics (2)	Optional – 1 (3+2) (Discipline)	Optional – 2 (3+2) (Discipline)	Vocational (4+2) (Sector Stream)	25	33	495
	IV	Computer Applications (3+2	Practical Accountancy (2)	Environmental Science (2)	Optional – 1 (3+2) (Discipline)	Optional – 2 (3+2) (Discipline)	Vocational (4+2) (Sector Stream)	25	33	495
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
		24	16	18	30	30	36	152	198	2970

Note: In addition to the above a B.Voc. Degree student need to acquire 12 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;

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 Creative or Fine Arts, / Debates etc.,

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. The first year consists of 10 credits/semester, second year consists of 11 Credits/Semester and final year consists of 18 credits/semester. Further it also consists of 12 credits of industry internship spread over three years;

Foundation courses shall have 16 Credits on the whole and offered in first and second 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.

B. Voc Program Attributes:

To make students work ready with appropriate knowledge, practice and attitude, so as to gain suitable employment or to 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;

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 and there are about 21 identified sector skill councils catering to offer programs in different sub-sectors to create skilled man power at various levels of vocational education. Further the courses would be planned/ designed 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 Centre of Excellence for skill development in specialized areas.

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.

Operational Model:

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

- **Institutional Structure**
- **Affiliation / Franchise Policy**
- **Faculty Resources**
- **Admission Process**
- **Curriculum Development**
- **Course Delivery**
- **Qualification Equivalence**
- **Assessment and Certification**
- **Industry – Institute Liaison**
- **Career Counseling & Guidance**
- **Placement & Training**
- **Scholarships & Loan Facilitation**

Institutional Structure:

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 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.

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 for a degree by a student.

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

Faculty Resources:

Courses are taught by renowned professors, research scientists, top consultants, affiliated faculty and experienced managers of large public sector / corporate organizations. Persons from different professional bodies are also invited for the teaching activities. The UGC also recommends that the people with expertise in concerned subject be involved as visiting faculty / adjunct faculty. The existing faculty in related disciplines are to be suitably sensitized in specialized areas of courses offered through work-shops, short term orientation courses and seminars etc. for which financial assistance could be provided by the UGC.

- **Academic Professors:** A regular faculty working in various departments, associated with academic activities of the university.
- **Research Professors:** A scientist working in scientific organizations, universities, industries etc., are considered or the faculty appointed under Faculty Research Program of UGC;

- **Administrative Professors**: People who are in administrative positions can share their knowledge, expertise and experiences with the students;
- **Adjunct Professors:** Qualified, Experienced, Actively serving individual in an organization / institute / industry can act as Adjunct Professor;
- **Affiliated Faculty:** Only experienced persons capable of communicating the knowledge effectively and associated with small and medium business activities 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.
- **Guest Faculty:** Qualified, Experienced, Retired faculty can act as Guest Faculty;

Admission Process:

- Preferably Common Admission Procedures to be adopted for all Regular Courses/Programs;
  - 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
- 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 through 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.
- 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 under NSQF 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.
- ***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.

Curriculum Development:

- The Curriculum Development under the CBCS and CFSD in terms of NHEQF and NSQF:
- Define the
  - Number of Contact Hours to be spent by student per week/semester for different programs
  - Number of Credits to be acquired by the students for obtaining a certificate/ diploma/ advanced diploma/ degree (Regular/Distance/Honors/Vocational)
  - Mode of Teaching – Learning Process
  - Scheme of Examination
  - Objectives and Key Outcomes of the courses offered
- Follow Credit Based Semester System;
- Enable for provision of credit transfer across courses for academic flexibility and 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;

Course Delivery:

- 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

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 the appropriate Professional Councils for particular qualification and the generic attributes defined by the University/UGC/AIU;
- Provide ways to compare qualifications for quality assurance and recognition across the nation and 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 learning processes;

Assessment and Certification:

All assessments will conform to assessment guidelines laid down by the concerned SSC for each QP.

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 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;

- 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 levels;

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 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.

c) To facilitate joint research work, consultancy involving faculty and students.

d) To conduct industrial exhibitions to highlight research facilities and expertise available with the institution.

e) To facilitate professionals from Industry to work as visiting faculty in institutions and short or long periods deployment of faculty from institutions to Industry for gaining industrial experience and/or work on projects in Industry.

f) To seek and associate Experts from Industry in Curriculum Development and review.

g) To identify Continuing Education opportunities, short-term training needs of the Industry, which the institution can provide.

h) To promote revenue generating activities for the institution like Lab Testing, Calibration, consultancy and R&D etc.

i) To assess periodically the scientific and technological scenario/ happenings in India and

j) abroad in order to translate it into action for taking up future R&D work.

Career Counseling and Guidance:

The Institution should focus on establishing a Career Counseling and Guidance Center to facilitate the following;

- 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.
- 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 organize seminars and guidance workshops for notifying the students about the emerging professional trends and events, job profiles, leadership roles, entrepreneurship, market needs and risks and implementation of national socio-economic policies and to impart training in soft skills.
- To promote discipline, healthy outlook and positive attitudes towards achieving national integration and removal of narrow provincial preferences and prejudices

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 training 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, creating job profiles for them, identifying areas of training and various methods as per the training requirement, formulate sequence of activities to meet the training schedules for appropriate placement. The involvement of corporate trainers and recruiters will help students to overcome their handicaps. Further it makes necessary arrangements to improve the skills in the areas such as portfolios, Mock Interviews, Group discussions, Etiquette, Presentation and Placement advisory. These measures will enhance employability of urban and rural students into the corporate job market and industry.

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 student financing options to become one-stop-shop financial aid offices, which include partial or full fee waiver, deferred payment options, apprenticeships, and internships alongside 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 hours/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.

Funding Model:

Education is one of the 12 service sectors of trade and need to search the possibilities of future growth and investment in Human Capital Development. The Funding Model is envisaged to explore the Institutional Finances from a Non-State Resources to operate the organization for effective functioning. The finances are important factor for quality assurance and sustainability of the specific/particular program delivery. The sources of finances may be as follows;

- **Fee Based**
    - Fee Structure
- **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

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

- 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.

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 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.

Conclusions:

- The academic programs that are devised 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 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 CFSD and identify the five institutional linkage clusters in the state based on Economic Sectors of GDP;
- Adopt the UGC guidelines for both CBCS and CFSD 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;
- Design course content and offer programs of Elective and Foundation courses through Distance and Open Education System;
- 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.

Recommendations:

1. Create Institutional Structures on the lines of KAUSHAL centers (ANNEXURE – I) at State / University / Institution levels
2. Empanel Occupational / Optional Skill Develop Centers under University Jurisdiction through MoA / MoU and Mandate Industry-Institutional linkages (ANNEXURE – II)
3. 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 CFSD as per NHEQF and NSQF (ANNEXURE - III)
4. Prepare norms of standardization of qualifications for examination, evaluation and certification as per NSQF or CFSD and NHEQF or CBCS (ANNEXURE – IV)
5. Devise the Operational Model and Funding Models (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)
7. 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 as per UGC norms to meet the performance radars. (ANNEXURE – VII)
8. Launch Mission Mode Centers at State Level for effective Implementation and Monitoring (ANNEXURE – VIII)
9. Cultivate 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; (ANNEXURE-IX)
10. Build corpus funds for Institutional Development, Faculty & Staff Development, Research Development and Scholarship & Loan Facilitation etc., (ANNEXURE – X)
11. Promote collaborations and networking with both industries and institutes for targeted development of skill education and research innovation;
12. Mandate the Accreditation System as a Quality Assurance Measure to Certify and Grade the Institutions;
13. 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 and offer it through continuing education program for specific sector skill courses under elective open stream option;
14. Initiate Administrative Reforms for effective implementation at University and Institutional levels;
15. 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.