

**Guidelines for providing Skill Based Education under National Skills Qualifications Framework****1. Introduction**

Skills and knowledge are the driving forces of economic growth and social development for any country. Presently, the country faces a demand – supply mismatch, as the economy needs more ‘skilled’ workforce than that is available. In the higher education sphere, knowledge and skills are required for diverse forms of employment in the sectors of education, health care, manufacturing and other services.

Government of India, taking note of the requirement for skill development among students, launched National Vocational Education Qualification Framework (NVEQF) which was later on assimilated into National Skills Qualifications Framework (NSQF). Various Sector Skill Councils (SSCs) are developing Qualification Packs (QPs), National Occupational Standards (NOSs) and assessment mechanisms in their respective domains, in alignment with the needs of the industry.

In view of this, the UGC implemented the scheme of Community Colleges from 2013-14 in pilot mode on the initiative of the MHRD. Thereafter, realizing the importance and the necessity for developing skills among students, and creating work ready manpower on large scale, the Commission decided to implement the scheme of Community Colleges as one of its independent schemes from the year 2014-15. The Commission also launched another scheme of B.Voc. Degree programme to expand the scope of vocational education and also to provide vertical mobility to the students admitted into Community Colleges for Diploma programmes to a degree programme in the Universities and Colleges. While these two schemes were being implemented, it was also realized that there is a need to give further push to vocational education on a even larger scale. Accordingly, ‘Deen Dayal Upadhyay Centres for Knowledge Acquisition and Upgradation of Skilled Human Abilities and Livelihood (KAUSHAL)’ was also incorporated. Since all these three provisions serve a common purpose, they are merged into a single scheme for providing skill based education under National Skills Qualifications Framework.

## **2. National Skills Qualifications Framework**

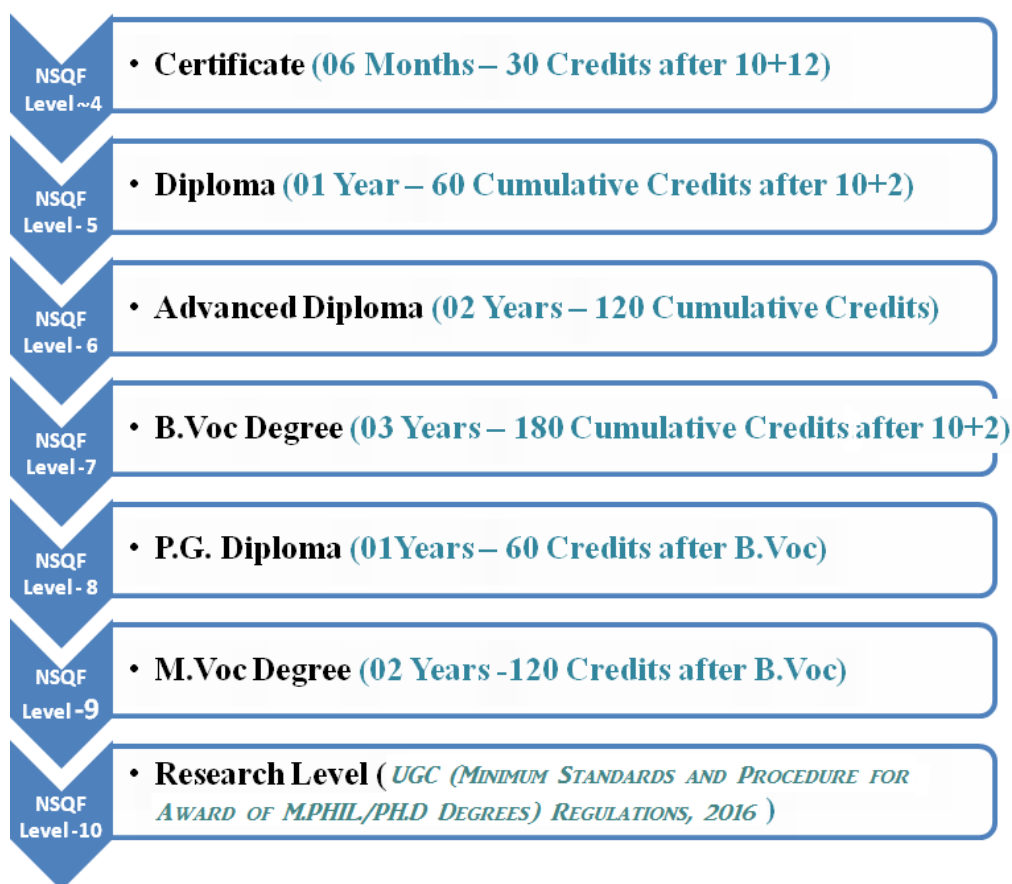
The National Skills Qualifications Framework (NSQF) is a competency-based framework that organizes qualifications according to a series of knowledge, skills and aptitude. The NSQF levels, graded from one to ten, are defined in terms of learning outcomes which the learner must possess regardless of whether they are obtained through formal, non-formal or informal learning. National Occupational Standards (NOS) are statements of the skills, knowledge and understanding needed for effective performance in a job role and are expressed as outcomes of competent performance. They list down what an individual performing that task should know and also are able to do. These standards can form the benchmarks for various education and training programs to match with the job requirements. Just as each job role may require the performance of a number of tasks, the combination of NOSs corresponding to these tasks form the Qualification Pack (QP) for that job role. The NOSs and QPs for each job role corresponding to each level of the NSQF are being formulated by the respective Sector Skill Councils (SSCs) set up by National Skill Development Corporation (NSDC) with industry leadership. The curriculum which is based on NOSs and QPs would thus automatically comply with NSQF.

The specific outcomes expected from implementation of NSQF are as follows:

- Mobility between vocational and general education by alignment of degrees with NSQF.
- Recognition of Prior Learning (RPL), allowing transition from non-formal to organized job market.
- Standardized, consistent, nationally acceptable outcomes of training across the country through a national quality assurance framework.
- Global mobility of skilled workforce from India, through international equivalence of NSQF.
- Mapping of progression pathways within sectors and cross-sectorally.
- Approval of NOS/QPs as national standards for skill training.

### 3. Type of Courses and Awards

- Skill-based programmes can be offered at the level of certificate, diploma, advanced diploma, B.Voc, P.G. diploma, M.Voc and research as per details given below.



- These will be full-time credit-based modular programmes, wherein banking of credits for skill and general education components shall be permitted so as to enable multiple exit and entry. These should not be conducted as add on programmes.
- The multiple entry and exit enables the learner to seek employment after any level of award and join back as and when feasible to upgrade qualifications / skill competencies either to move higher in the job profile or in the higher educational system. This will also provide the learner an opportunity for vertical mobility to second year of B.Voc degree programme after one year diploma and to third year of B.Voc degree programme after a two year advanced diploma. The students may further move to Masters and Research degree programmes mapped at NSQF Level 8 –10.

#### **4. Curricula and Credit System for Skill Based Courses**

- In order to make education more relevant and to create ‘industry fit’ skilled workforce, the institutions offering skill based courses will have to be in constant dialogue with the industry and respective Sector Skill Council(s) so that they remain updated on the requirements of the workforce for the local economy. These institutions should also preserve and promote the cultural heritage of the region, be it art, craft, handicraft, music, architecture or any such thing, through appropriately designed curriculum leading to gainful employment including self-employment and entrepreneurship development.
- The curriculum in each of the semester/years of the programme(s) will be a suitable mix of general education and skill development components. Skill component of the courses shall have a minimum of 60% of the total credits and it can go upto a maximum of 70% of the total credits, and the balanced credits shall be of general education component.
- The institution(s) shall prepare draft curriculum as per these guidelines and as per the provisions enumerated in MHRD Skill Assessment Matrix for Vocational Advancement of Youth (SAMVAY).
- The Curriculum shall be approved by the Board of Studies (BoS) and Academic Council of the University / Autonomous College. The Universities where BoS for Vocational subjects has not yet been constituted, the curriculum may be considered by the BoS in allied subject area or an ad-hoc BoS may be constituted till the time regular BoS is notified in the university. The BoS should consider the programme-wise curriculum based QP for skill component and relevant general education subjects i.e. the curricula for programmes in one broad subject area may vary from institution to institution in case the different progressive QPs are mapped with the programmes being offered. The choice of different progressive job roles for a course may also be enabled under CBCS.

##### **4.1 Skill Component**

- The skill component should have a minimum of 60% and extendable upto a maximum of 70% of the total credits. The skill component will include practical classes in laboratories / workshops, internships, apprenticeships and any other forms of hands on training.
- Skill component of the programmes/courses shall be employment oriented. The institutions shall offer programmes/courses in domain areas which have significant demand in the job market.
- The institutions, in consultation with the industry partner(s) and based upon skills Gap analysis report published by the NSDC, industry associations, Sector

Skills Councils, Government agencies etc, may decide specific job Role(s) to be embedded in curriculum. The exit profiles of the learners at different levels *i.e.* Certificate / Diploma / Advanced Diploma should be clearly defined in output terms.

- The curriculum should be aligned to Qualification Packs (QPs) / National Occupational Standards (NOSs) of selected job role(s) within the industry sector(s). This would enable the students to meet the learning outcomes specified in the NOSs. If a progressive QP is not available in the concerned trade by the SSC, the relevant entrepreneur/occupational role may be incorporated with well defined duties and work standards identified with industry partners through proper consultation with the experts in the field.
- For the skill component, the model curriculum developed by the concerned Sector Skill Councils, wherever available, may be adopted or adapted in consultation with the industry partners. Wherever the curriculum is not available, the same may be developed in consultation with the relevant Sector Skill Councils and industry partners. While doing so, the institutions may work towards aligning the curriculum with the National Occupational Standards being developed by the respective/allied Sector Skill Councils. This would promote national and global mobility of the learners, as well as higher acceptability by the industry for employment purposes.
- The overall design of the skill development component along with the job roles selected should be such that it leads to a comprehensive specialization in one or two domains.
- In case of non-availability of NOS in a specific area / job role, the university/college should get the curriculum for this developed in consultation with relevant industry experts.
- The curriculum should also focus on work-readiness in terms of skills in each of the semesters.
- Adequate attention needs to be given in curriculum design to practical work, on-the-job training, development of student portfolios and project work. All skill-based programmes should be apprenticeship-embedded.
- The practical / hands-on portion of the skills component of the curriculum shall be transacted in face to face mode. The skill component of the programmes will conform to the QPs/NOSs.

#### **4.2 General Education Component**

- General education component will include curriculum which are supportive to the core trade in addition to communication skills, soft skills, ICT skills, critical thinking, problem solving, environmental studies and value

education. As already mentioned, the Skill component of the courses can vary from 60 % to 70% of the total credits, and the balanced credits shall be of general education component.

- The general education component should adhere to the university / collegiate education norms and shall be decided by the Board of Studies of the concerned University / Autonomous College. It should lay emphasis on offering courses which provide holistic development.

**4.3** The curriculum should be designed in a manner that at the end of year-1, year-2 and year-3, students are able to meet below mentioned level descriptors for level 5, 6 and 7 of NSQF, respectively which are as given below:

**Table 1**

Level	Process required	Professional knowledge	Professional skill	Core skill	Responsibility
Level 5	Job that requires well developed skill, with clear choice of procedures in familiar context	Knowledge of facts, principles, processes and general concepts, in a field of work or study	A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools materials and information	Desired mathematical skill, understanding of social, political and some skill of collecting and organizing information, communication.	Responsibility for own work and learning and some responsibility for other's works and learning
Level 6	Demands wide range of specialized technical skill, clarity of knowledge and practice in broad range of activity involving standard / non-standard practices	Factual and theoretical knowledge in broad contexts within a field of work or study	A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study	Reasonably good in mathematical calculation, understanding of social, political and, reasonably good in data collecting organizing information, and logical communication	Responsibility for own work and learning and full responsibility for other's works and learning
Level 7	Requires a command of wide ranging specialized theoretical and practical skill, involving variable routine and non- routine context	Wide ranging, factual and theoretical knowledge in broad contexts within a field of work or study	Wide range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study	Good logical and mathematical skill; understanding of Social, political and natural environment; ability in collecting and organizing information, communication and presentation skill	Full responsibility for output of group and development

**Professional knowledge** is what a learner should know and understand with reference to the subject;

**Professional skills** are what a learner should be able to do and,

**Core skills** refer to basic skills involving dexterity and use of methods, materials, tools and instruments used to perform the job including IT skills needed for that job.

**Responsibility aspect** determines the (i) nature of working relationship, (ii) level of responsibility for self and others, (iii) managing change and (iv) accountability for actions.

- 4.4** The institutions may also provide for Recognition of Prior Learning (RPL) framework for job roles at NSQF Level 4 onwards by conducting assessment and certification through respective SSC(s) / Directorate General of Employment and Training (DGET).
- 4.5** Relevance of programmes offered, along with that of the curriculum is important. Therefore, monitoring, evaluation and updating of the curriculum needs to be done periodically in consultation with all stake holders, particularly the industries and SSCs keeping in view their requirements and changes in NOSs. The approved institutions under the scheme shall incorporate this as a continuous and dynamic process, in-built in their system.
- 4.6** The institutions may like to appropriately use technology to improve the effectiveness of the delivery of courses. There should be at least one job role at the concerned NSQF Level in the curriculum to be assessed and certified for skill component. The normal training hours for skilling should be proportionate to the weightage for skill credits and an appropriate component of skill training may be imparted as on-site training at actual work place.
- 4.7** The institutions offering skill based courses are essentially required to have MoUs with relevant Industry Partner/s in order to facilitate on-site skill training of the learners enrolled under the skill based courses.
- 4.8** While formulating the curriculum, institutions will follow choice based credit system and provide provisions for credit transfer across the courses. The credit distribution should be rationally provided for the practical work, apprenticeships, on-job training and project work.
- 4.9** As the CBSE and many other school boards are initiating skill based vocational courses with certification at NSQF Level 4 for students completing 10+2, there may be three types of learners getting admission to first semester of skill based courses under NSQF:

**Category – 1:** students already acquired NSQF certification Level 4 in a particular industry sector and opted admission in the skill based courses under NSQF in the institutions recognized under Community Colleges / B.Voc Degree programme / Deen Dayal Upadhyay KAUSHAL Kendras in same trade with job role for which he /she was previously certified at school level.

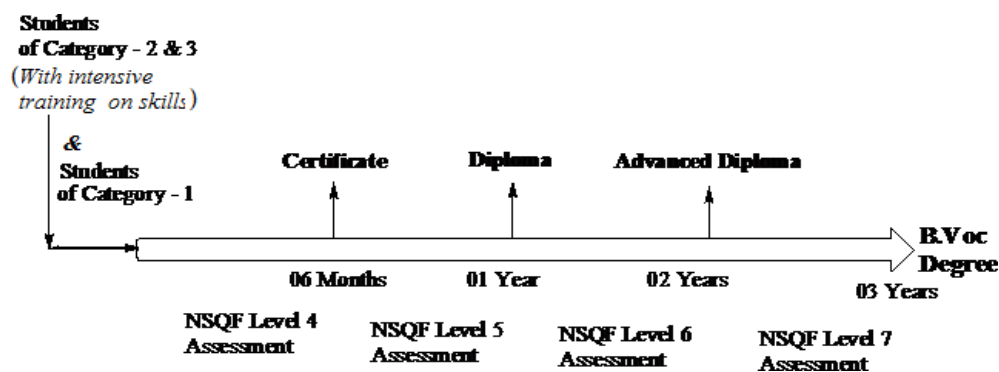
**Category – 2:** students who have acquired NSQF certification Level 4 but may like to change their trade and may enter into skill based courses in a different

trade.

**Category – 3:** students passed 10+2 examination with conventional schooling without any background of vocational training.

The institutions should provide additional study curriculum and arrange for skill intensive training / teaching for the learners belonging to the category-2 and 3 during the first six months for which they shall be at NSQF Level 4 of skill competency by concerned SSC at the end of first semester. Learners belonging to category-1 need not undergo any additional intensive training and teaching as they already have NSQF level 4 certificates in same industry sector / job role required for specified skill credits.

From second semester onwards they will follow the common programme for further course of study. Students may exit after six months with a Certificate (NSQF Level 4) or may continue for diploma or advanced diploma level courses. An academic progression for the students in skilling stream is illustrated below:



The courses under NSQF shall also provide for vertical mobility to the students with vocational subjects in school level. The Universities shall enable horizontal & vertical mobility to the students of vocational stream at 10+2 level in various courses at undergraduate level.

## 5. Assessment:

- The Skill component of the course will be generally assessed by the respective Sector Skill Councils. In case, there is no Sector Skill Council for a specific trade, the assessment may be done by an allied Sector Council or the Industry partner. Further if Sector Skill Council in concerned / relevant trade has no approved QP which can be mapped progressively or due to any other reason, if the SSC expresses its inability to conduct the assessment or cannot conduct the skill assessment in stipulated time frames as per academic calendar, the institutions may conduct skill assessment through a **Skill Assessment Board** by 'Certified Assessors' as per the provisions enumerated in MHRD Skill Assessment Matrix for Vocational Advancement of Youth (SAMVAY). The Skill Assessment Board may have Vice-Chancellor/Principal/Director/Nodal officer/Coordinator of the programme / Centre, representatives of the partner industry(s),



one nominee of the Controller of Examination or his/her Nominee of affiliating University / Autonomous College and at least one external expert. The affiliating university may nominate additional experts on the Skill Assessment Board, if required.

- The certifying bodies may comply with / 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 course(s) with the respective Sector Skill Council(s).
- The general education component will be assessed by the concerned university as per the prevailing standards and procedures. General Education credit refers to a unit by which the course work is measured. It determines the number of hours of instructions required per week.
- One credit is equivalent to one hour of teaching (lecture or tutorial) or two hours of practical work/field work per week. Accordingly, one Credit would mean equivalent of 14-15 periods of 60 minutes each or 28 – 30 hrs of workshops/ labs. For internship / field work, the credit weightage for equivalent hours shall be 50% of that for lectures /tutorials. For self-learning, based on e-content or otherwise, the credit weightage for equivalent hours of study shall be 50% of that for lectures / tutorials.
- The institutions offering B.Voc degree programme should adopt and integrate the guidelines and recommendations of the respective Sector Skill Councils (SSCs) for the assessment and evaluation of the vocational component, wherever available.
- Letter Grades and Grade Points: it is recommended to adopt 10- point grading system with the Letter grades as given below:

**Table 4: Grades and Grade Points**

<b>Letter Grade</b>	<b>Grade Point</b>
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 and Ab shall be considered failed and he/she will be required to reappear in the examination.

- Computation of Semester Grade Point Average System (SGPA) and Cumulative Grade Point Average (CGPA):

- The SGPA is the ratio of sum of the product of the number of credits with the grade points scored by a student in all the course components taken by a student and the sum of the number of credits of all the courses undergone by a student in a semester, *i.e*

$$\text{SGPA} (S_i) = \sum(C_i \times G_i) / \sum C_i$$

where 'C<sub>i</sub>' is the number of credits of the i<sup>th</sup> course component and 'G<sub>i</sub>' is the grade point scored by the student in the i<sup>th</sup> course component.

- The CGPA is also calculated in the same manner taking into account all the courses undergone by a student over all the semesters of a programme, *i.e.*

$$\text{CGPA} = \sum(C_i \times S_i) / \sum C_i$$

Where 'S<sub>i</sub>' is the SGPA of the i<sup>th</sup> semester and C<sub>i</sub> is the total number of credits in that semester.

- The SGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts.
- The skill component would be taken as one of the course components in calculation of SGPA and CGPA with given credit weightage at respective level.

## 6. Certification of Awards

- Award of Certificate / Diploma / Advanced Diploma / B.Voc and other degrees as the case may be, would depend on acquisition of requisite credits and not on the duration of the calendar time spent in pursuing the course.
- The certificate for skilling component would be awarded by the Sector Skill Council in terms of NSQF level either singly or jointly with the institution concerned and the general education grades will be certified along with the skill component in terms of certificate/ diploma awarded by the institution.
- UGC guidelines on Choice Based Credit System (CBCS) may be referred for further illustration on computation of SGPA, CGPA etc. to confer the awards as above.
- Each of the awards shall specify within parenthesis, the Skill(s) specialization, such as B. Voc. (Renewably Energy Management), B. Voc. (Retail Management) etc.
- The students will have the option to exit with a Certificate, Diploma or Advanced Diploma after acquiring requisite no of credits. In case of affiliated colleges, such students may be awarded Certificate, Diploma or Advanced Diploma, as the case

may be by the concerned College after a written authorization by the affiliating University.

#### **7 Admission and Fee:**

- The minimum educational qualification for admission under this scheme will be class 12 pass or equivalent from any recognized board or university.
- Equal weightage should be given to vocational subjects at +2 level while considering the students for admission into B.Voc courses for recognition of skills credits.
- Reservation to SC, ST, OBC and PwD categories will be available as per the extant National / State policy.
- There shall be no age bar for admission in the skill based certificate /diploma/ degree programmes under NSQF.
- While deciding criteria for admission into any particular trade, the institutions will consider students having background in relevant stream at 10+2 level.
- In case of certificate programmes, admissions may be done twice a year to facilitate a steady stream of learners joining the college and moving out as trained work force to the job market.
- Student fee should be decided as per the prevalent practice for fee fixation taking into account for the sustainability of the programme. Attempt should be made to recover part of the expenditure under the scheme from the student fee.

#### **8 Role of Sector Skill Council(s)**

- The Sector Skill Council will support the institutions in framing the regionally relevant skill curriculum based on the appropriate QPs / NOSs in the sector.
- The SSC will also conduct assessment for skill component of the courses on mutually agreed dates as per the previously shared performance and assessment criteria based on curriculum framed for the programme at different levels.
- The SSC will declare Pass/Fail as per predefined assessment criteria and will also provide performance grades along with level certification either singly or jointly with the institution.
- In case there is no SSC in the concerned trade or SSC expresses its inability to conduct assessment in time giving justifiable reasons, the assessment for skill component may be conducted by 'Skill Assessment Board' comprising of the Head of the Institution / Nodal Officer / Coordinator, University Representative and Representative(s) from industry partner.
- The assessment outcomes of skill component shall be communicated by the

college/institution to the concerned affiliating University to club it with academic assessment of 'General Education Component' for compilation of final results.

## **9 Role of the University**

- The University will constitute appropriate BoS / adhoc BoS for the courses to consider and approve the course of study / curriculum prepared by the institution in consultation with the Sector Skill Councils / relevant industry partners. The curriculum / course contents shall be considered and approved by the appropriate academic mechanism of the University.
- The University has to conduct examination of the general academic component of the course and club the results with skill assessment. The University may appoint an Observer during the skill assessment conducted by the SSC / Skill Assessment Board on mutually agreed dates within timelines of the programme. The results in totality will be declared by the University and it will award the degree accordingly.
- However, the institution / college concerned may itself award Diploma / Certificates under its own seal and signature after written authorization from affiliating University; name of the affiliating university and scheme should be mentioned on award certificate.

## 10. Nature of Financial Assistance and other related Provisions

- **Eligibility**

- a) Any institution recognized by the UGC under Section 2(f) and 12 (B) of the UGC Act, 1956 and eligible to receive General Development Assistance (GDA)/Block Grants from the UGC as per extant norms.
- b) Self financing institutions recognized under 2(f) of the UGC Act 1956 may also be considered for approval under the scheme. They will abide by the guidelines of UGC as amended from time to time, but will not be entitled for any financial assistance under the scheme.
- c) An institution will be eligible to receive grant for a course provided atleast 15 students are enrolled in that course.

- **Financial assistance** may be provided to the eligible institutions for the following:

- **One time start up assistance:** Rs. 25 to 40 lakhs per course (based on the recommendation of a UGC-constituted Expert Committee). Financial assistance under this head will be limited to a maximum of 4 courses per institution. One time start up assistance will be provided for developing the infrastructure, setting up of laboratories / workshops facilities, procurement of teaching and learning materials, machineries / equipments, and renovation of buildings. This will not cover any new construction. Moreover, an institution will not be eligible for the start up assistance for a course if the institution has already been running that course.
- **Assistance for faculty:** The institutions may appoint faculty / trainers as per requirement on contract basis. The institutions may also engage guest teachers / industry experts for successful conduct of the courses. However, UGC will provide financial assistance to the eligible institution for 1 contractual faculty / 1 guest teacher per course per batch (for instance, if three batches are being run in an institution for a three year B.Voc course, UGC will provide assistance for three teachers / trainers). Assistance under this head will be limited to a maximum of 4 courses per institution. Salary to the guest faculty may be provided as per extant norms of the UGC for providing remuneration to guest teachers. Salary of the contractual faculty / trainer should not exceed the entry level salary of a college teacher.
- The consumables and other recurring expenditure for the training shall be collected as fees from the students. UGC will not provide any assistance for the operational costs.

- The Institutions are encouraged to explore industry funding under Corporate Social Responsibility (CSR) for the skill based vocational programmes. The institutions may also tap external sources of funding under different schemes of the Central and State Governments or of industry sector for training or offering products or services relevant to the subject area to further strengthen infrastructure facilities or enabling sustainability mechanism.

#### **11. Process of Approval**

- In order to run skill-based courses with the approval of the UGC, interested institutions will have to apply to UGC on an online portal whenever such applications are invited.
- Institutions already approved to run skill-based courses may be given further extension on satisfactory outcomes of implementation. These institutions will apply to UGC for extension of their programmes whenever such applications are invited. However, these institutions will not be eligible for start-up assistance. They will be eligible for assistance for faculty only. The consumables and other recurring expenditure for the training shall be collected as fees from the students. UGC will not provide any assistance for the operational costs.

#### **12. Procedure for release of grant**

- UGC will release the recommended / approved grant on receipt of relevant data from the institutions. The institutions will be required to upload the data related to admitted students and appointed faculty on the UGC portal every year. After ascertaining the commencement of the course/s in the institution, UGC will release 100% of the start up assistance. Assistance for the faculty / trainers will be provided by UGC on reimbursement basis after due verification of the appointments.

#### **13. Monitoring of Performance Outcomes**

The Monitoring of the scheme shall cover the following areas:

- Students intake and pass outs,
- Students placement,
- Industry engagement: MoUs, guest lecturers, internship and on job training,
- Lab/workshop facilities provided,
- Commitment to recruiting students; students actually recruited and their average salary,

- Curriculum alignment with industry requirements, National Occupational Standards and NSQF,
- Extent of alignment with the needs of the local community,
- Funds received and utilised by the college,
- The approved institutions are essentially required to timely furnish the information as may be required by the UGC from time to time. The institutions will be required to upload data on the UGC portal regarding actual number of students admitted / passed out / placement record and faculty appointed.

#### **14. Withdrawal of Approval**

- The UGC may withdraw the assistance to an institution and take appropriate action if the information and data supplied by the university/college to claim assistance under the scheme is found to be incorrect or if the institution does not fulfill the objectives for which it is established.