

**Shree Manibhai Virani and Smt. Navalben Virani Science College
(Autonomous), Rajkot
Affiliated to Saurashtra University, Rajkot**

**B. Voc. Chemical Technology
(3 years – Six Semester Full Time Course)**

**Ordinance and Regulations
For Students Admitted from A.Y. 2017-2018 & Onwards**

DEEN DAYAL UPADHYAY KAUSHAL KENDRAS

(XII plan guidelines for Deen Dayal Upadhyay Centres for knowledge acquisition and upgradation of skilled human abilities and livelihood (KAUSHAL) in universities and colleges – 2014-2017)

Introduction:

Education plays an important role in the overall development of a human being as well as the nation. It is a unique investment in the present and for the future. Every country develops its own system of education to express and promote its unique socio-cultural identity besides meeting the challenges of time to leverage the existing potential opportunities. India, at present, is recognized as one of the youngest nations of the world with over 50% of population under the age of 30 years. It is estimated that by 2025, India will have 25% of the world's total workforce. In order to harness the full demographic dividend, India needs high quality educational system which is affordable, flexible and relevant to the individuals, as well as to needs of the society as a whole. Today, the country faces a demand – supply mismatch as the economy needs more 'skilled' workforce as also the managers and entrepreneurs than produced annually. In fact, majority of the contemporary institutions of higher learning remain almost disconnected with the requirements of the workplace. The higher education system has to incorporate the requirements of various industries in its curriculum, in an innovative and flexible manner while producing well groomed graduates. UGC introduced two schemes known as – Community Colleges 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. Government of India, taking note of the requirement for skill development among students developed 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. However, 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 program to expand the scope of vocational education and also to provide vertical mobility to the students admitted into Community Colleges for Diploma programs to a degree program in the Universities and Colleges. While these two schemes are being implemented, it is also realized that there is a need to give further push to vocational education on a 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 and Livelihood (KAUSHAL)' during the XII Plan period. These Centers 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 NOSs 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.

Objectives of the Scheme:

The main objectives of these centers are to:

- a) create skilled manpower for industry requirements at various levels. The scheme provides for vertical mobility from short term certificate courses to full-fledged post graduate degree program, and further research in specialized areas. The courses would be planned/ designed to have provision of multiple entry and exit at various levels culminating up-to a research degree level. These shall also include courses which are offered under the Community College Scheme and B.Voc. degree program of UGC.
- b) Formulate courses at postgraduate level keeping in mind the need of i) Industry in specialized areas; ii) Instructional design, curriculum design and contents in the areas of Skills Development; iii) Pedagogy, assessment for skills development education and training; iv) trained faculty in the areas of skill development; and v) Entrepreneurship; etc.
- c) work for coordination between the higher education system and industry to become a Centre of Excellence for skill development in specialized areas.
- d) network with other such centers and universities and colleges imparting vocational education under the scheme of Community Colleges and B.Voc degree program in their region and coordinate with them for targeted development of skill oriented education.
- e) undertake R&D in the areas related to skill education & development, entrepreneurship, employability, labour market trends etc. at the post-graduate and research level.
- f) act as finishing school by providing supplementary modular training programs so that a learner, irrespective of his/her training background, is made job ready with necessary work skills (soft, communication, ICT skills etc) and fill the gaps in the domain skills measured against QPs/NOSs.
- g) provide for Recognition of Prior Learning (RPL) framework for job roles at NSQF Level 4 onwards by conducting assessment and certification with respective Sector Skill Councils (SSCs) / Directorate General of Employment and Training (DGET).
- h) Maintain 'Labour Market Information' for respective regions in coordination with other government agencies and industry associations.

- i) develop and aggregate curriculum, content and learning materials for skills development in different sectors.

Basic Principles for Curriculum Design:

While formulating the curriculum under the scheme, the Centers may:

- a) follow credit based semester system;
- b) provide for provision for credit transfer across courses;
- c) ensure alignment of skill component with the QPs/NOSs of the relevant job roles based on the exit profiles of the students. The focus of skill development components should be to equip students with appropriate knowledge, practice and attitude, so as to make them work ready. The skill development components should be relevant to the industries as per their requirements;
- d) provide credits for practical work, apprenticeship, on the job training, and project work;
- e) provide multiple exit and entry points with provision for vertical and horizontal mobility;
- f) assess and certify the skill competence for the selected job roles through the respective SSCs / DGET;
- g) provide credits for general education component and skill component broadly in the ratio of 40 : 60. The general education will also include credits in communication skills, ICT skills, soft skills, critical thinking, problem solving, environmental studies and value education.
- h) review the courses periodically in accordance with the changing requirements of the industry and regional / national economic priorities.
- i) follow UGC guidelines for skill development courses at different levels specified under Community Colleges, B.Voc. degree program and as may be prescribed from time to time.

Programs and Curricula: (UGC guidelines for curricular aspects, assessment criteria and credit system in skill based vocational courses under national skills qualification framework (NSQF))

In order to make education relevant and to create 'industry fit' skilled workforce, the institutions recognized under Community Colleges / B.Voc Degree program, and Deen Dayal Upadhyay KAUSHAL Kendras 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. There will be credit-based modular programs, wherein banking of credits for skill and general education components shall be permitted so as to enable multiple exit and entry. This would enable the learner to seek employment after any level of Award and join back as and when feasible to upgrade her / his qualification / skill competency either to move higher in her / his job or in the higher educational system. This will also provide the learner an opportunity for vertical mobility to second year of B.Voc degree program after one year diploma and to third year of B.Voc degree program after a two year advanced diploma. The students may further move to masters and research degree programs (NSQF Level 8 – 10)

Degree of Bachelor of Vocation in Chemical Technology (B.Voc. – Chemical Technology) Degree Course

Ordinance and Regulations:

O.S. B.Voc.- Chem.Tech. – 1 :

Admission Eligibility: 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 program / DDU 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.

Candidate who have passed an equivalent examination from any other board or examining body and is seeking admission to the Bachelor of Vocation – Chemical Technology (B.Voc.- Chem.Tech.) course will be required to provide necessary eligibility certificate.

O.S. B.Voc.- Chem.Tech. – 2 :

The duration of the course will be of three full time academic years. No candidate will be allowed to join any other course or service simultaneously. The examination for the Bachelor of Vocation – Chemical Technology (B.Voc.- Chem.Tech.) course will be divided into six semesters.

Multi-level Exit :

Candidate will be eligible to receive Diploma(NSQF Level 5) after first 2 semesters and Advance Diploma (NSQF Level 6) after 4 semesters according to guidelines of UGC.

O.S. B.Voc.- Chem.Tech. – 3 :

Subject to the provisions laid down in Ordinance O.S. B.Voc.- **Chem.Tech.**– 2, a candidate who has passed the B. Voc. semester I & II/ B. Voc. semester III & IV of this University and if there is a break in the studies for any reason and if there is a change in the courses from semester system to annual part Examination system, the candidate will be admitted to B.Voc. Part II / B.Voc. Part III and the marks/ credits obtained by the candidate in his previous examination of this University in B.Voc. semester I and II will be carried forward and the result of the B.Voc. Second/ Final Examination will be declared accordingly.

O.S. B.Voc.- Chem.Tech. – 4 :

No candidate will be admitted to any semester examination for Bachelor of Vocation – Chemical Technology (B.Voc.- Chem.Tech.) unless a student has put on at least 80% of the total lecture periods and practical periods in each subject in each semester.

O.S. B.Voc.- Chem.Tech. – 5 :

No candidate will be permitted to reappear at any semester examination, which he has already passed. The marks of successfully completed paper will be carrying forwarded for the award of class.

O.S. B.Voc.- Chem.Tech. – 6 :

There shall be an examination at the end of each semester to be known as Pre Diploma (first semester) examination, Diploma (second semester-NSQF Level-5) examination, Pre Advanced Diploma (third semester) examination, Advanced Diploma (forth semester-NSQF Level-6) examination, Pre B.Voc. Degree (fifth semester) examination and B.Voc. Degree (sixth semester-NSQF Level-7) examination. At which a student shall appear in that portion of theory papers, practical and viva – voice if any, for which he has kept the semester in accordance with the regulations in this behalf.

A candidate whose term is not granted for what so ever reason shall be required to keep attendance for that semester or term when the relevant papers are actually taken at the college.

O.S. B.Voc.- Chem.Tech. – 7 :

Guidelines to keep term of B.Voc. Chem. Tech.;

A candidate will be permitted to continue his/her study up to the 4th semester examination without passing his/her previous semester examination.

A candidate can take admission to fifth (pre-ultimate) semester if he/she is failing in NOT more then two subjects of previous (1 to 4) semesters.

A candidate can take admission to Sixth (Ultimate/Final) Semester if he/she is not failing in more then two subjects of 5th Semester. Provided he/she should have cleared all 1 to 4 semester.

B.Voc. Chemical Technology

Name of the Program(s) (Diploma, Adv. Diploma, Degree)	Semesters	No. of Credits 30 Cr./Sem	Job Roles and NSQF-Levels
Diploma in Surface Coating	1	60 Credits	NSQF Level 5 Supervisor
	2		
Advance Diploma in Petrochemicals & Polymers	3	60 Credits	NSQF Level 6 Technician / Trainer
	4		
B.Voc. in Chemical Technology	5	60 Credits	NSQF Level 7 B.Voc. Graduate
	6		