



BHARTIYA SKILL  
DEVELOPMENT UNIVERSITY

# FACULTY OF REFRIGERATION & AIR-CONDITIONING SKILLS





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## FACULTY OF REFRIGERATION & AIR-CONDITIONING SKILLS

The B.Voc Program in Refrigeration & Air-Conditioning Skills offers a unique opportunity to become an HVAC Specialist in the Air-conditioning & Refrigeration sector.

It is an industry-integrated program aligned with the world's most evolved Swiss system of Vocational Education (also called Swiss Dual System).

## SWISS DUAL SYSTEM

The Swiss Dual System of Vocational Education is a highly respected model globally renowned for its effectiveness in preparing individuals for successful careers in various industries. It combines practical, on-the-job training, with classroom-based learning thereby offering a unique blend of theoretical knowledge and hands-on experience.

- **Dual Structure:** The education system is structured around two main components: vocational school education and company-based training. Students spend part of their time in vocational schools, where they acquire theoretical and practical knowledge relevant to their chosen profession and the remaining time is spent in companies, where they undergo practical training under the guidance of experienced professionals.
- **Partnership with Industry:** Swiss vocational education programs are developed and implemented in close collaboration with industry partners and industry associations. This ensures that the curriculum is aligned with the current needs and requirements of the market.

- **Preparation for Life:** An important component of the curriculum includes education in life skills and critical thinking. These skills prepare students not only for the workplace, but also for their long-term growth and success.

## HOW BSDU IS BETTER THAN ANY OTHER SKILL UNIVERSITY

- Stipend during six-month industry internship in 2nd, 4th, and 6th semesters
- Training by experts/visiting faculties from Switzerland
- Multiple entry & exit options
- Hostel facility available separately for boys and girls
- Merit-based Scholarships & Fee Concessions to eligible students





# B.VOC. IN RAC SKILLS

The Program is UGC-approved and has industry-relevant curriculum that is updated regularly to reflect the latest advancements in the field.

The Faculty of Refrigeration and Air- Conditioning Skills education runs its course as per the Indian Society of Heating, Refrigeration and Air Conditioning Engineers (ISHRAE) standards which is the apex body of more than 13000+ HVAC Industry Specialists across India and overseas that provide support in the internship and placement of the students.

## This Course is for students who

- Are passionate in Design and Technical aspects
- Have strong desire to work in the RAC industry
- Are willing to learn, have good problem-solving skills, and have a desire for hands-on work



## JOB ROLES & WORKPLACE TRAINING

### First Year

Student gains basic knowledge about HVAC service industry in a job role of RAC Service Technician, Maintenance and Installation Technician, Refrigerator Maintenance Technician and Site Technician.

### Second Year

The student can reach upto higher roles such as Senior Service Technician, Sales and Design Executive and Front Office Executive.

### Third Year

Students can reach upto the roles such as HVAC Service Supervisor, Design Executive, Project Site In-charge, Sales Executive, Front Office Executive, Service and Maintenance Supervisor, CRM-Operator, Plant Operator, Maintenance Engineer, etc.

## WHY B.VOC IN REFRIGERATION AND AIR-CONDITIONING SKILLS

The Bachelor of Vocation (B.Voc) in Refrigeration and Air- Conditioning Skills (RAC) offers a unique blend of theoretical knowledge and practical training, preparing students for a high-tech work environment with long-term job security, competitive salaries, and benefits. This program is distinguished by its strong industry connections, ensuring that students are equipped with the skills and expertise required in the RAC sector.

### ■ Focus on Practical Training and State-of-the-Art Facilities

The program places significant emphasis on practical training, preparing students for real-world challenges. Students have access to state-of-the-art workshops and laboratories enhancing their practical learning experience. These facilities are

designed to simulate work situations, allowing students to develop their skills in a realistic environment.

### ■ Experienced Faculty and Industry Connections

The program is led by qualified and experienced faculty members, along with visiting faculties from Switzerland to provide expert training and guidance to students.

### ■ Enhancing Job Prospects

The Program offers paid industry internship, providing students with valuable industry experience and enhancing their job prospects. This program is designed to equip students with the skills and expertise required to succeed in the Refrigeration and Air-Conditioning industry ensuring a bright future for the students.

# B.VOC IN REFRIGERATION AND AIR-CONDITIONING SKILLS

## DURATION

3 Years

## ELIGIBILITY CRITERIA

- 10+2 in any stream, or
- ITI after 10th in RAC/Electrical or
- Polytechnic Diploma holders are eligible for lateral entry admission

## SELECTION PROCEDURE

Admission will be through an Entrance Exam followed by a personal interview.







## MODULAR STRUCTURE, AND MULTIPLE ENTRY & EXIT OPTIONS

The Multiple Entry and Exit System (MEES) of the New Education Policy in higher education allows students the flexibility of multiple entry and exit points and accordingly, all B.Voc programs at BSDU are structured in this modular format, offering various entry and exit points at Certificate, Diploma and Advanced Diploma levels.

Each of the six semesters is designed to carry 30 credits, culminating in a total of 180 credits upon completion of the B.Voc program. This modular approach provides students with the flexibility to progress through the program at their own pace and choose the level of qualification that best suits their academic and career aspirations.

Semester	Duration	Exit in	Location	Credits (Cumulative)	Award
I	6 Months	6 Months	BSDU	30	Certificate
II	6 Months	1 Year	Industry Workplace	60	Diploma
III	6 Months	1.5 Years	BSDU	90	----
IV	6 Months	2 Years	Industry Workplace	120	Advanced Diploma
V	6 Month	2.5 Years	BSDU	150	----
VI	6 Months	3 Years	Industry Workplace	180	B.Voc Degree





## KEY COMPETENCIES

The program at the Faculty of RAC Skills focuses on a complete framework towards all the areas of competencies needed to become a successful professional in the RAC Industry.

### ■ Technical Proficiency

Competence in understanding refrigeration principles, thermodynamics, and air conditioning systems is essential. This includes knowledge of refrigerants, heat transfer mechanisms, system components, and troubleshooting techniques.

### ■ Installation and Maintenance Skills

Proficiency in installing, commissioning, and maintaining refrigeration and air conditioning systems is crucial. This involves understanding equipment specifications, following safety protocols, and conducting routine inspections to ensure optimal performance and longevity of systems.

### ■ Problem-solving Abilities

The ability to identify and resolve technical issues related to refrigeration and air conditioning systems is a key competency. Professionals should possess strong problem-solving skills to address malfunctions, leaks, inefficiencies, and other operational challenges effectively.

### ■ Safety and Compliance Knowledge

Competence in adhering to safety regulations

and industry standards is essential to ensure the safe operation of refrigeration and air conditioning systems. Professionals should be familiar with relevant codes, practices, and protocols to mitigate risks and ensure compliance with legal requirements.

### ■ Customer Service Orientation

Excellent customer service skills are important for interacting with clients, understanding their requirements, and providing satisfactory solutions. Professionals in this sector should be able to communicate effectively, manage expectations, and build positive relationships with customers.

### ■ Continuous Learning and Adaptability

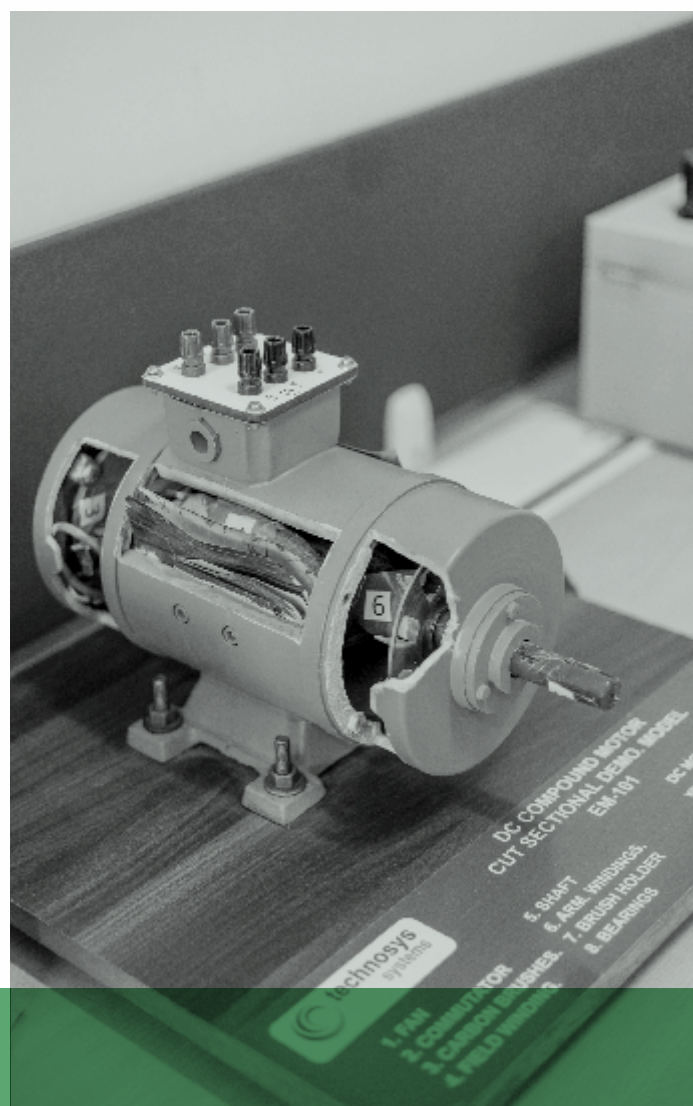
The RAC sector is constantly evolving with advancements in technology, regulations, and best practices. Professionals should demonstrate a commitment to continuous learning, staying updated on industry trends, acquiring new skills, and adapting to changes to remain competitive and deliver high-quality services.



## INFRASTRUCTURE AND EQUIPMENT

The Faculty offers the latest machinery imported from Japan, Germany etc. and has well-equipped labs.

- RAC Workshop
- Refrigeration Training Lab
- Air Distribution & Conditioning Lab
- Electrical Single & Three Phase lab






## FUTURE PROSPECTS

The future outlook for professionals in the refrigeration and air conditioning sector is bright. India's HVAC&R industry is among the largest globally and is poised for continued expansion. Skilled technicians are consistently sought after to maintain and service cooling systems. Graduates can anticipate abundant career growth opportunities in this dynamic field.

The key skills taught in the program culminate into meaningful professions in the Refrigeration and Air- Conditioning Industry. Graduates are prepared for careers as:

- RAC Service Technician
- Maintenance and Installation Technician
- Refrigerator Maintenance Technician
- Site Technician
- Senior Service Technician
- Sales and Design Executive
- Service Front Office Executive
- HVAC Service Supervisor
- Design Executive
- Project Site In-Charge
- Sales Executive
- Front Office Executive
- Service and Maintenance Supervisor
- CRM Operator
- Plant Operator
- Maintenance Engineer



A black and white photograph of two male technicians working on a large, corrugated metal industrial unit, likely a refrigeration or air conditioning system. The technician on the left is standing on a step ladder, wearing a white hard hat and a dark polo shirt with a logo on the sleeve. He is looking upwards and to the left. The technician on the right is also wearing a white hard hat and a dark polo shirt, and is pointing his right index finger upwards towards the unit. He has a beard and is wearing a silver bracelet on his right wrist. The background is a plain, light-colored wall.

The Bachelor of Vocation (B.Voc) in Refrigeration and Air- Conditioning Skills not only prepares students for a successful career in the Refrigeration and Air- Conditioning industry but also provides a unique opportunity to become job providers by becoming entrepreneurs and starting-up ventures in the HVAC field.

Being a graduation degree program, it further facilitates students to pursue higher studies such as B. Tech (RAC)/M.Voc (RAC)/ MBA.



## ADMISSION PROCESS

- Applications in the prescribed format for undergraduate programs (B.Voc) are invited from eligible candidates.
- After reviewing the applications, selected candidates are invited for the BSDU Common Admission Test.
- Qualified candidates from the entrance test will appear before the interview panel for personal interviews.
- After compiling all the assessment weightage, a merit list of successful candidates is prepared and notified to the candidates.
- All successful candidates are then called for counseling sessions, document verification, and fee payment as per the notified schedule to complete the admission modalities.





## FEE STRUCTURE FOR B.VOC (3-YEAR PROGRAM)

Courses	I*/III/V Semester @ BSDU Campus	II/IV/VI Semester @ Industry Workplace Training	Total Yearly Fee for the Program
Refrigeration & AC Skills	Rs. 50,000	Rs. 10,000	Rs. 60,000

\*For all courses, an additional fee of Rs. 6,000 will be collected in the 1st semester. This includes Rs. 1,000 registration fee and Rs. 5,000 caution money deposit. The caution money is refundable upon completion of the B.Voc program.

Fee to be deposited within seven days of receiving provisional admission letter.





# COURSE STRUCTURE

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## SEMESTER 1

- Applied Mathematics
  - Fundamentals of Refrigeration & Air Conditioning
  - RAC System Tools and Accessories
  - RAC Electrical and Electronics
  - Material Fusion and Assembly
  - Residential Refrigeration Devices
  - Residential Air Conditioning Devices
  - Branch Course-I
  - Open Elective
- General Education**
- New Phase of Life
  - Dealing with Money
  - Partnership and Relationships
  - Labour Laws and Rights
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## SEMESTER 2: Workplace Training I

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### SEMESTER 3

- System Design Principle and Practices
  - HVAC Electrical and Electronics
  - Centralized Climate Control Machine
  - Machine Accessories and Fittings
  - Refrigerants and HVAC Technologies
  - Cold Chain and Storage
  - Branch Course-II
  - Open Elective
- General Education**
- Health and Well being
  - Education and Learning
  - Media and Communication
  - Cultural Diversity and Inclusion
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## SEMESTER 4: Workplace Training II

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### SEMESTER 5

- HVAC Design and Simulation
  - Air Distribution System
  - Chilled Water Supply System Design
  - Advance Central Air Conditioning System Practices
  - Machine Project Planning
  - Project
  - Branch Course-III
  - Open Elective
- General Education**
- Environment and Sustainability
  - Problem Solving through Logical Reasoning
  - Global Challenges
  - Visions of the Future and Responsibility
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## SEMESTER 6: Workplace Training III

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# LIFE @ BSDU



## THE CAMPUS

BSDU, Jaipur is strategically situated at Mahindra World City, a multiproduct Special Economic Zone based on the concept of an 'Integrated Business City', that is home to prestigious firms like JCB, Mahindra, Infosys, ICICI Bank, RS India, TTK Healthcare, and Ball Corporation. It is located at just 45 min drive from both Jaipur International Airport and Railway Station.



## SPORTS

BSDU believes in building an all-round personality including physical fitness for its students. It provides adequate outdoor and indoor sports facilities. These facilities include well-maintained Volleyball and Football grounds, carom, chess, table tennis, etc.





## HOSTEL

BSDU offers hostel facility separately for boys and girls. It is a home away from home, equipped with indoor games facilities, common rooms, and a mess. Hot water is provided during winters. Twenty-four-hour water and electricity supply is ensured. Strict security measures are taken to ensure safety of the students. The hostels have a resident warden. Mess facility has high-quality air-cooled dining room serving four meals every day.

### Hostel Fee

- Rs. 37,000 per semester for Boarding & Lodging.
- Hostel charges include both Hostel Stay (Non-AC) and Mess/Dining charges.
- This Fee Structure is valid for the current Academic Year.







## CENTRAL LIBRARY

Central Library holds a hybrid collection of printed as well as electronic resources which include books, journals, databases, audiovisual aids, CDs/DVDs, e-books, e-journals, e-question papers, etc. Currently, it has a collection of 18,000 books, 900 CD/DVDs, Wall Chart in 13 Trades, Transparency Sheets in 18 Trades, DELNET Membership, EBSCO Engineering Database. Other Infrastructure includes DELNET, KOHA, DSpace software, and NPTEL Videos.







## DEPARTMENT OF WORKPLACE TRAINING

The Department of Workplace Training & Placement (DWTP) at Bhartiya Skill Development University connects students with recruiters, ensuring a match between their mutual aspirations. BSDU's curriculum is designed to prepare students for successful careers with reputable organizations. The University enhances students' professional skills through various activities and events, helping them excel in their chosen fields.

DWTP organizes year-round activities to prepare students for employment, with regular visits from reputed organizations for compulsory internships across all programs. The department maintains strong relationships with these organizations, ensuring continuous opportunities for students. It also provides training in aptitude tests, group discussions, resume preparation, and interviews, ensuring students are equipped with both technical knowledge and soft skills to meet industry expectations.



## SCHOLARSHIPS & FEE CONCESSION

BSDU is committed to making its world-class education accessible & affordable for students from all walks of life. To promote equitable and inclusive skill education in line with the NEP 2020, the following scholarships and fee concessions are offered to students.

- Tuition fee Concession for:
  - Girls and Transgender
  - Defense Personnel
  - Socio-cultural Identities
  - Differently-abled Students
  - Economically weaker Identities
- Academic Scholarship

## OUR RECRUITERS



## SUCCESS STORIES

Student Name	Year of Passing	Salary/ Month	Name of Company
Sunil Kumar Sharma	2021	Rs. 60,000	Mitsubishi Electric India Pvt. Ltd.
Anurag Singh Shekhawat	2021	Rs. 45,000	Hitachi India Pvt. Ltd.
Parduman	2023	Rs. 23,000	Carrier Midea India Pvt. Ltd.
Harsh Aggarwal	2023	Rs. 23,000	Daikin Air-Conditioning India Pvt. Ltd

## RECOGNITIONS

- The establishment of BSDU, Jaipur is recognized and approved by the State Government. The University has been incorporated by the Government of Rajasthan through legislation of Bhartiya Skill Development University, Jaipur Act 2017(Act No. 3 of 2017) and was notified vide Notification No. F.2(4) Vidhi/2017 dated 30th March 2017 in the Rajasthan Gazette.
- **University Grants Commission** approved the establishment of Bhartiya Skill Development University Jaipur under Section 2(f) of the UGC Act 1956 dated 10.11.2020.
- All B.Voc and M.Voc courses of Bhartiya Skill Development University are aligned with the National Skill Qualifications Framework (NSQF).
- Bhartiya Skill Development University is a member of the Association of Indian Universities.







## ADMISSION QUERIES

admissions@ruj-bsdu.in | +91 9116611131



**BHARTIYA SKILL  
DEVELOPMENT UNIVERSITY**



**RAJENDRA AND URSULA JOSHI  
CHARITABLE TRUST**

## CAMPUS

BHARTIYA SKILL DEVELOPMENT UNIVERSITY  
Plot No. SI/INST/001, Social Infrastructure Zone,  
Mahindra World City, Off Ajmer Road, Jaipur, Rajasthan

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Incorporated through Rajasthan State Legislature Act No. 3 of 2017.

UGC approved establishment under Section 2(f) of the  
UGC Act 1956 dated 10.11.2020.



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