

# FACULTY OF VOCATIONAL STUDIES AND SKILL DEVELOPMENT

## Modules



**DESH BHAGAT UNIVERSITY**  
Mandi Gobindgarh, Punjab

## B.Voc. Medical Laboratory Science

### Semester 1

**Level 1 Certificate in Medical Laboratory Science** ( 6 months – 1 Semester)

Major Emphasis on Fundamental biomedical sciences and Basic Lab skills.

Includes a mini project on Basic Lab Techniques.

S.No	Course Title	Type	Credits
1	Human Anatomy & Physiology – I	Gen	4
2	Basics of Laboratory Technology – I	Skill	4
3	Fundamentals of Microbiology	Gen	4
4	Phlebotomy & Biomedical Waste Management	Skill	3
5	Fundamentals of Computers	Gen	3
6	Communication & Soft Skills	Gen	2
7	Anatomy & Physiology I Lab	Skill	2
8	Lab Technology I Lab	Skill	2
9	Microbiology Lab	Skill	2
10	Phlebotomy & Waste Management Lab	Skill	2
11	<b>Project I: Basic Laboratory Techniques</b>	Skill	2
<b>Total</b>			<b>30</b>

### Semester 2

**Level 2 Diploma in Medical Laboratory Science** ( 1 year – 2Semester)

Builds on clinical lab skills (pathology, hematology, biochemistry).

A supervised Internship/project at a Healthcare lab is included for hands-on experience.

S.No	Course Title	Type	Credits
1	Human Anatomy & Physiology – II	Gen	4
2	Clinical Pathology	Skill	3
3	Fundamentals of Hematology	Skill	3
4	Introduction to Biochemistry	Gen	4
5	Advanced Phlebotomy & Lab Ethics	Skill	3
6	Basics of Health Care Economy	Gen	3
7	Anatomy & Physiology II Lab	Skill	2
8	Clinical Pathology Lab	Skill	2
9	Hematology Lab	Skill	2
10	Biochemistry Lab	Skill	2
11	<b>Project II: Clinical Laboratory Internship</b>	Skill	2
<b>Total</b>			<b>30</b>

### Semester 3

#### Level 3 Advanced Diploma in Medical Laboratory Science (2 year-4Semester)

Covers Advanced diagnostic areas and instrumentation. The curriculum includes Immunology, Advanced microbiology, Blood banking, and professional ethics, with extensive lab work in each area.

S.No	Course Title	Type	Credits
1	Clinical Hematology & Serology	Skill	4
2	Advanced Clinical Microbiology	Skill	4
3	Clinical Biochemistry – II (Metabolic Techniques)	Gen	4
4	Blood Banking & Transfusion Science	Skill	3
5	Professional Ethics & Patient Care	Gen	3
6	Laboratory Management & Quality Assurance	Gen	4
7	Hematology & Serology Lab	Skill	2
8	Microbiology Lab	Skill	2
9	Clinical Biochemistry II Lab	Skill	2
10	Blood Banking Lab	Skill	2
<b>Total</b>			<b>30</b>

### Semester 4

Focus on specialized domains (histopathology, bacteriology, immunology, genetics). Includes an industry Internship or project of 4 credits, aligned with diagnostic lab operations.

S.No	Course Title	Type	Credits
1	Clinical Histopathology & Cytology	Skill	4
2	Advanced Bacteriology & Virology	Skill	4
3	Immunology & Molecular Diagnostics	Gen	4
4	Applied Genetics in Laboratory Science	Gen	4
5	Advanced Communication & Soft Skills	Gen	2
6	<b>Project III: Internship in Medical Lab</b>	Skill	4
7	Histopathology & Cytology Lab	Skill	2
8	Bacteriology & Virology Lab	Skill	2
9	Immunology & Molecular Diagnostics Lab	Skill	2
10	Genetics Lab	Skill	2
<b>Total</b>			<b>30</b>

#### Level 4 B Voc in Medical Laboratory Sciences ( 3 year 6 semesters)

**Semester 5** – Advanced techniques and emerging areas in medical lab technology. Topics include parasitology, clinical endocrinology, advanced biochemical testing, healthcare IT, and laboratory administration. Practical sessions reinforce each technical module.

S.No	Course Title	Type	Credits
1	Parasitology & Medical Virology	Skill	4
2	Advanced Clinical Biochemical Techniques	Skill	3
3	Clinical Endocrinology & Tumor Markers	Gen	3
4	Laboratory Informatics & Data Management	Gen	4
5	Healthcare Systems & Laboratory Administration	Gen	3
6	Entrepreneurship & Regulatory Issues in Lab Services	Gen	3
7	Parasitology & Virology Lab	Skill	2
8	Advanced Biochemical Techniques Lab	Skill	2
9	Endocrinology & Diagnostics Lab	Skill	2
10	Laboratory Informatics (LIS) Lab	Skill	2
11	Laboratory Administration Practicum	Skill	2
<b>Total</b>			<b>30</b>

#### Semester 6

Emphasizes integration and real-world experience. Students undertake a major internship/project in a clinical lab setting (final project), and study healthcare management and emerging trends in laboratory science.

S.No	Course Title	Type	Credits
1	Emerging Trends in Laboratory Medicine	Gen	4
2	Laboratory Operations & Accreditation	Gen	3
3	Public Health & Epidemiology	Gen	3
4	Biomedical Instrumentation & Maintenance	Skill	3
5	Research Methodology & Biostatistics	Gen	3
6	<b>Project IV: Major Internship &amp; Project (Final)</b>	Skill	4
7	Biomedical Instrumentation Lab	Skill	2
8	Computer Applications in Lab Management Lab	Skill	2
9	Research & Data Analysis Lab	Skill	2
10	Professional Portfolio & Viva Voce	Skill	2
<b>Total</b>			<b>30</b>



## B.Voc. Medical Radiology & Imaging Technology

**Level 1 Certificate** in Medical Radiology & Medical Imaging Technology  
( 6 months – 1 Semester)

**Semester 1** – Covers anatomy, radiography fundamentals, and basic computer and communication skills, laying the groundwork in radiologic science.

S.No	Course Title	Type	Credits
1	General Human Anatomy & Physiology – I	Gen	4
2	Fundamentals of Radiology & Imaging	Skill	4
3	Basics of Para-Clinical Science	Skill	4
4	Medical Ethics & Patient Care	Gen	3
5	Fundamental of Computers	Gen	3
6	Communication & Soft Skills	Gen	2
7	Anatomy & Physiology I Lab	Skill	2
8	Radiology Fundamentals Lab	Skill	2
9	Para-Clinical Science Lab	Skill	2
10	Patient Care Lab	Skill	2
11	<b>Project I: Radiography Orientation Project</b>	Skill	2
<b>Total</b>			<b>30</b>

**Semester 2** – Diploma in Medical radiology and Imaging Technology  
Introduces advanced imaging procedures, radiation physics, and an initial industry internship. Students learn radiographic positioning and special imaging techniques.

S.No	Course Title	Type	Credits
1	Human Anatomy & Physiology – II	Gen	4
2	Patient Positioning & Clinical Radiography	Skill	4
3	Special Radiographic Procedures	Skill	4
4	Darkroom Techniques & Image Processing	Skill	2
5	Radiation Physics	Gen	3
6	Basics of Health Care Market & Economy	Gen	3
7	Anatomy & Physiology II Lab	Skill	2
8	Radiography Positioning Lab	Skill	2
9	Special Procedures Lab	Skill	2
10	Image Processing Lab	Skill	2
11	<b>Project II: Radiology Clinical Internship</b>	Skill	2
<b>Total</b>			<b>30</b>

**Semester 3 – Advanced Diploma in Medical Radiology and Imaging Technology**

( 2 year – 4Semester)

Focuses on advanced imaging modalities (CT, mammography), computed imaging processes, and ethics. Significant lab work on imaging equipment and software is included.

S.No	Course Title	Type	Credits
1	Principles of CT & Mammography	Gen	4
2	CT Procedures and Imaging Protocols	Skill	4
3	Advanced Radiographic Techniques	Skill	4
4	Radiology Equipment & Maintenance	Skill	3
5	Professional Ethics & Patient Care	Gen	4
6	Medical Image Processing & IT	Gen	3
7	CT & Mammography Lab	Skill	2
8	Advanced Radiographic Techniques Lab	Skill	2
9	Equipment Maintenance Lab	Skill	2
10	Image Processing Software Lab	Skill	2
<b>Total</b>			<b>30</b>

**Semester 4**

Covers MRI, ultrasound, department management, and radiation safety. A 4-credit internship/project in a radiology department provides practical exposure.

S.No	Course Title	Type	Credits
1	MRI Principles & Imaging Techniques	Skill	4
2	Ultrasound Imaging Techniques	Skill	4
3	Imaging Department Organization & Management	Gen	4
4	Radiation Safety & Regulatory Compliance	Gen	2
5	Advanced Communication & Soft Skills	Gen	2
6	<b>Project III: Internship in Imaging Dept</b>	Skill	4
7	MRI Imaging Lab	Skill	2
8	Ultrasound Imaging Lab	Skill	2
9	Radiology Equipment QA Lab	Skill	2
10	Radiation Safety Practicum	Skill	2
<b>Total</b>			<b>30</b>

**Semester 5 B.Voc** in Medical Radiology & Medical Imaging Technology

( **Level 4** 3 year – 6 semesters)

Delves into specialized and emerging imaging areas. Includes interventional radiology, quality assurance, healthcare IT (PACS), and basics of nuclear medicine. Practical labs reinforce each specialized topic.

S.No	Course Title	Type	Credits
1	Interventional Radiology & Special Procedures	Skill	4
2	Advanced Imaging Modalities (PET, DEXA, etc.)	Skill	4
3	Quality Assurance & Audit in Imaging	Gen	4
4	Healthcare IT & PACS (Imaging Informatics)	Gen	3
5	Radiology Law, Ethics & Patient Rights	Gen	3
6	Basics of Nuclear Medicine	Skill	2
7	Interventional Radiology Lab	Skill	2
8	Advanced Imaging Techniques Lab	Skill	2
9	Imaging Quality Control Lab	Skill	2
10	PACS & Medical Imaging IT Lab	Skill	2
11	Nuclear Medicine Lab (Imaging & Safety)	Skill	2
<b>Total</b>			<b>30</b>

**Semester 6** – Emphasizes professional readiness with courses on advanced imaging management and a final internship/project. Students consolidate their skills through a major project in a clinical setting.

S.No	Course Title	Type	Credits
1	Advanced Imaging Management & Administration	Gen	4
2	Recent Advances in Radiology	Gen	3
3	Telemedicine & Teleradiology	Gen	3
4	Entrepreneurship in Healthcare	Gen	2
5	<b>Project IV: Major Internship &amp; Project (Final)</b>	Skill	4
6	Radiology Case Studies & Seminar	Skill	2
7	Teleradiology Lab	Skill	2
8	Radiology Software Applications Lab	Skill	2
9	Entrepreneurship Practicum (Business Plan)	Skill	2
10	Professional Competency Viva	Skill	2
<b>Total</b>			<b>30</b>

## B.Voc. Anaesthesia & Operation Theatre Technology

**Semester 1** – Introduces human anatomy, basic biomedical science, first aid, and hospital waste management, along with computer and communication skills essential for OT technicians.

S.No	Course Title	Type	Credits
1	Human Anatomy & Physiology – I	Gen	4
2	General Biochemistry	Skill	4
3	First Aid and Basic Patient Care	Gen	4
4	Biomedical Waste Management	Skill	3
5	Fundamental of Computers	Gen	3
6	General English & Soft Skills	Gen	2
7	Anatomy & Physiology I Lab	Skill	2
8	Biochemistry Lab	Skill	2
9	First Aid & Patient Care Lab	Skill	2
10	Biomedical Waste Management Lab	Skill	2
11	<b>Project I: Basic Hospital Training Project</b>	Skill	2
<b>Total</b>			<b>30</b>

**Semester 2** – Covers advanced anatomy, OT equipment, basic nursing, pathology, and microbiology relevant to the OT setting. A first hospital internship is included for practical exposure.

S.No	Course Title	Type	Credits
1	Human Anatomy & Physiology – II	Gen	4
2	Operation Theatre Equipment Management	Skill	2
3	Elementary Nursing & Patient Monitoring	Skill	4
4	Clinical Pathology	Gen	4
5	Clinical Microbiology	Skill	3
6	Basics of Health Care Market & Economy	Gen	3
7	Anatomy & Physiology II Lab	Skill	2
8	OT Equipment Management Lab	Skill	2
9	Nursing & Patient Monitoring Lab	Skill	2
10	Clinical Pathology Lab	Skill	2
11	Clinical Microbiology Lab	Skill	2
12	<b>Project II: Hospital Internship (OT Assistant)</b>	Skill	2
<b>Total</b>			<b>30</b>

**Semester 3** – Focus on anesthesia principles, applied anatomy, pharmacology, and OT protocols. Ethics and computing are also included. Students practice anesthesia techniques and OT setup in labs.

S.No	Course Title	Type	Credits
1	Applied Anatomy & Physiology – II	Skill	4
2	Principles of Anesthesia	Skill	3
3	OT Equipment & Tray Setup Basics	Gen	4
4	Clinical Pharmacology for OT	Skill	3
5	Human Values & Professional Ethics	Gen	4
6	Advanced Computing Skills (Hospital IT)	Gen	2
7	Applied Anatomy & Physiology Lab	Skill	2
8	Anesthesia Principles Lab	Skill	2
9	OT Equipment Setup Lab	Skill	2
10	Pharmacology Lab (OT drugs)	Skill	2
11	Computing Skills Lab (Healthcare IT)	Skill	2
<b>Total</b>			<b>30</b>

**Semester 4** – Concentrates on specialized surgical techniques, community health, critical care, and advanced communication. A 4-credit internship in the OT is included for hands-on experience.

S.No	Course Title	Type	Credits
1	Anaesthetic Techniques for Specialized Surgeries	Skill	4
2	Community Health Nursing & Communicable Diseases	Skill	4
3	Critical Care & Emergency Management	Gen	4
4	OT Techniques in Ophthalmic & ENT Surgery	Gen	4
5	Medical Ethics & Hospital Administration	Gen	2
6	<b>Project III: Advanced OT Internship</b>	Skill	4
7	Anaesthesia Techniques Lab	Skill	2
8	Community Health Procedures Lab	Skill	2
9	Critical Care Simulation Lab	Skill	2
10	OT Techniques (Eye & ENT) Lab	Skill	2
<b>Total</b>			<b>30</b>

**Semester 5** – Covers advanced anesthesia, orthopedic and neuro surgery assistance, ICU management, sterilization techniques, and biomedical equipment. Extensive practical training in each area is provided.

S.No	Course Title	Type	Credits
1	Anaesthesia for Obstetrics & Pediatrics	Skill	4
2	Surgical Techniques for Ortho & Neurosurgery	Skill	4
3	Intensive Care Unit (ICU) Management	Skill	3
4	Sterilization & Infection Control Practices	Gen	3
5	Biomedical Equipment Maintenance	Gen	3
6	Healthcare Laws & OT Safety Regulations	Gen	3
7	Anaesthesia & Airway Management Lab	Skill	2
8	Ortho/Neuro Surgery Assistance Lab	Skill	2
9	ICU Skills Lab (Ventilator, Monitor handling)	Skill	2
10	Sterilization & CSSD Lab	Skill	2
11	Biomedical Equipment Handling Lab	Skill	2
<b>Total</b>			<b>30</b>

**Semester 6** – Finalizes training with hospital management advanced OT technology, and a major internship/project. Students are deployed in operation theatres for real-case handling and complete a capstone project.

S.No	Course Title	Type	Credits
1	Hospital Management & Administration (OT Focus)	Gen	4
2	Advanced Operation Theatre Technology	Skill	3
3	Pain Management & Palliative Care	Gen	3
4	Entrepreneurship in Allied Health	Gen	2
5	<b>Project IV: Major Internship &amp; Project (Final)</b>	Skill	4
6	Case Studies in Surgical Care (Seminar)	Skill	2
7	Advanced OT Technology Lab	Skill	2
8	Pain Management Simulation Lab	Skill	2
9	Administration & Leadership Practicum	Skill	2
10	Professional Development & Employability Skills	Gen	2
<b>Total</b>			<b>30</b>

# B.Voc. Agriculture (Green House Technology)

## Semester 1

**Level 1 Certificate Course** in Agriculture ( Greenhouse Technology )  
( 6 months , 1 semester )

Focus on fundamentals of agriculture and sustainable practices. Students learn basics of crop science, soil management, and organic farming, with a small project on nursery or kitchen gardening.

S.No	Course Title	Type	Credits
1	Basics of Agricultural Science	Gen	4
2	Soil Science & Water Management – I	Gen	3
3	Crop Production Techniques – I	Skill	3
4	Organic Farming Principles	Skill	3
5	Basic Computer Applications	Gen	3
6	Communication Skills	Gen	2
7	Agricultural Science Lab (Soil & Plant Basics)	Skill	2
8	Soil & Water Management Lab	Skill	2
9	Crop Production Lab	Skill	2
10	Organic Farming Practices Lab	Skill	2
11	<b>Project I: Farm Orientation Project</b>	Skill	2
<b>Total</b>			<b>30</b>

## Semester 2

**Level 2 Diploma** in Agriculture ( Greenhouse Technology )  
( 1 year, 2semesters )

Advances into pest management, nutrient management, post-harvest technology, and agri economics. Includes a field training project (e.g., working on an organic farm or nursery).

S.No	Course Title	Type	Credits
1	Field Crops & Agronomy	Gen	4
2	Soil Fertility & Integrated Nutrient Management	Skill	3
3	Integrated Pest Management	Skill	3
4	Post-Harvest Technology & Value Addition	Skill	4
5	Agricultural Economics & Marketing Basics	Gen	3
6	Environmental Studies for Agriculture	Gen	3
7	Agronomy Field Lab (Crop Cultivation)	Skill	2
8	Soil Fertility Management Lab	Skill	2
9	Pest Management Lab	Skill	2
10	Post-Harvest Processing Lab	Skill	2
11	<b>Project II: Rural Internship (Farm Training)</b>	Skill	2
<b>Total</b>			<b>30</b>

### Semester 3

#### Level 3 Advanced Diploma in Agriculture ( Greenhouse Technology )

2 years 4 Semesters )

Focus on advanced sustainable agriculture techniques. Covers plant breeding, advanced organic farming, farm irrigation technology, and agribusiness management. Labs involve greenhouse management and advanced soil testing.

S.No	Course Title	Type	Credits
1	Plant Breeding & Seed Technology	Gen	4
2	Advanced Organic Farming & Permaculture	Skill	3
3	Farm Irrigation & Water Management – II	Skill	3
4	Agroforestry & Greenhouse Technology	Skill	3
5	Agribusiness Management & Entrepreneurship	Gen	3
6	Communication & Extension Education	Gen	4
7	Seed Technology Lab (Nursery & Seed Bank)	Skill	2
8	Organic Farming Lab (Composting, Vermiculture)	Skill	2
9	Irrigation Systems Lab (Drip/Sprinkler)	Skill	2
10	Greenhouse Management Lab	Skill	2
<b>Total</b>			<b>30</b>

### Semester 4

Emphasizes green technologies and sustainable agriculture projects. Topics include renewable energy in farming, advanced pest control (biocontrol), food processing, and a 4-credit internship/project (such as managing an organic farm plot or agro-industry internship).

S.No	Course Title	Type	Credits
1	Renewable Energy in Agriculture (Solar, Biogas)	Skill	4
2	Advanced Integrated Pest & Disease Management	Skill	3
3	Food Processing & Preservation Techniques	Gen	3
4	Climate-Smart Agriculture & Agro-meteorology	Gen	4
5	Advanced Communication & Soft Skills	Gen	2
6	<b>Project III: Sustainable Agriculture Internship</b>	Skill	4
7	Renewable Energy Applications Lab	Skill	2
8	Biocontrol & IPM Lab	Skill	2
9	Food Processing Lab	Skill	2
10	Climate Data Analysis Lab	Skill	2
<b>Total</b>			<b>30</b>

## Semester 5

### Level 4 B.Voc in Agriculture ( Greenhouse Technology )

3 years , 6 semesters )

Covers high-level topics like precision farming, farm management using ICT, advanced agribusiness, and research methodology. Practical work includes GIS/GPS for precision agri and an agribusiness startup simulation.

S.No	Course Title	Type	Credits
1	Precision Farming & Smart Agriculture	Skill	4
2	Agricultural Biotechnology & GM Crops	Gen	3
3	Farm Management & ICT Applications	Skill	4
4	Agribusiness & Supply Chain Management	Gen	3
5	Research Methods in Agriculture	Gen	3
6	Rural Development & Project Planning	Gen	3
7	Precision Farming Lab (GIS/GPS, Drones)	Skill	2
8	Farm Management Software Lab	Skill	2
9	Agribusiness Simulation Lab	Skill	2
10	Research & Data Analysis Lab	Skill	2
11	Rural Outreach Extension Lab	Skill	2
<b>Total</b>			<b>30</b>

**Semester 6** – Final semester integrates all skills with a focus on project work. Courses include agricultural policy, advanced sustainable practices, and a major project/internship (e.g., managing a full-season crop production or working on a sustainability project).

S.No	Course Title	Type	Credits
1	Agricultural Policies & Regulatory Framework	Gen	4
2	Advanced Sustainable Agriculture Practices	Gen	3
3	Natural Resource Management (Watershed, Forestry)	Gen	3
4	Entrepreneurship Development in Agriculture	Gen	2
5	<b>Project IV: Major Internship &amp; Project (Final)</b>	Skill	4
6	Project Presentation & Viva Voce	Skill	2
7	Sustainable Practices Field Lab	Skill	2
8	Resource Management Lab (GIS/Remote Sensing)	Skill	2
9	Agribusiness Incubation Lab	Skill	2
10	Farm Management Capstone Lab	Skill	2
<b>Total</b>			<b>30</b>

## B.Voc. Agriculture (Farm Machinery & Power Engineering)

Level 1 Certificate Course in Agriculture ( Farm Machinery and Power Engineering)  
( 6 months ,1 semester)

Semester 1 – Introduces fundamental agriculture context and engineering basics. Students learn about farm power, basic mechanics (workshop practice), soil basics, along with IT and communication skills.

S.No	Course Title	Type	Credits
1	Basics of Agricultural Science	Gen	4
2	Farm Power & Machinery – I (Tractors & Engines)	Skill	4
3	Workshop Practice & Farm Tools	Skill	4
4	Soil & Water Basics for Engineers	Gen	3
5	Basic Computer Applications	Gen	3
6	Communication Skills	Gen	2
7	Farm Machinery Workshop Lab	Skill	2
8	Machinery Operation (Tractor) Lab	Skill	2
9	Soil & Water Analysis Lab	Skill	2
10	Computer Applications Lab	Skill	2
11	<b>Project I: Farm Machinery Orientation Project</b>	Skill	2
<b>Total</b>			<b>30</b>

**Level 2 Diploma in Agriculture ( Farm Machinery and Power Engineering)**  
(1 year 2 semesters)

**Semester 2** – Focuses on machinery and farm operations. Key topics: advanced farm machinery, engine systems, irrigation technology, farm management basics, and an internship project (e.g., working at a farm equipment workshop).

S.No	Course Title	Type	Credits
1	Farm Power & Machinery – II (Implements & Harvesters)	Skill	4
2	Tractor Engine Systems & Maintenance	Skill	4
3	Irrigation & Drainage Technology	Skill	4
4	Crop Production & Farm Operations	Gen	4
5	Farm Management & Accounts	Gen	3
6	Environmental Safety & Sustainability	Gen	3
7	Farm Machinery II Lab	Skill	2
8	Engine Maintenance Lab	Skill	2
9	Irrigation Systems Lab	Skill	2
10	Crop Production Techniques Lab	Skill	2
11	<b>Project II: Farm Machinery Internship</b>	Skill	2
<b>Total</b>			<b>30</b>

**Level 3 Advanced Diploma** in Agriculture ( Farm Machinery and Power Engineering)  
(2 years 4 semesters)

**Semester 3**

Introduces advanced mechanical engineering concepts applied to agriculture: hydraulics, power transmission, agri-electronics, along with field operations and equipment testing. Labs include machinery testing and CAD design.

S.No	Course Title	Type	Credits
1	Hydraulics & Farm Machinery Power Systems	Skill	4
2	Farm Machinery Design & Drawing (CAD)	Skill	3
3	Post-harvest Machinery & Food Processing Equip	Skill	3
4	Agricultural Electronics & Instrumentation	Gen	3
5	Farm Operations & Machinery Management	Gen	3
6	Business Communication & Technical Report Writing	Gen	4
7	Hydraulics & Machinery Lab	Skill	2
8	CAD & Machine Drawing Lab	Skill	2
9	Farm Machinery Testing Lab	Skill	2
10	Electronics & Sensors Lab	Skill	2
<b>Total</b>			<b>30</b>

**Semester 4** – Focuses on modernizing farm mechanization: precision equipment, renewable energy for farm machines, advanced maintenance, and an industrial internship/project (e.g., at a farm equipment manufacturer or service center).

S.No	Course Title	Type	Credits
1	Precision Agriculture Equipment & Automation	Skill	4
2	Renewable Energy Applications in Farm Machinery	Skill	3
3	Advanced Farm Machinery Maintenance & Troubleshooting	Skill	3
4	Entrepreneurship & Marketing of Agri Machinery	Gen	3
5	Advanced Communication & Soft Skills	Gen	3
6	<b>Project III: Farm Machinery Industry Internship</b>	Skill	4
7	Precision Agri Equipment Lab	Skill	2
8	Farm Machinery Maintenance Workshop Lab	Skill	2
9	Renewable Energy Systems Lab	Skill	2
10	CAD/CAM Lab (Machinery Prototyping)	Skill	2
<b>Total</b>			<b>30</b>

**Level 4 B Voc in Agriculture** ( Farm Machinery and Power Engineering)  
( 3 years 6 semesters)

**Semester 5** – Advanced topics such as tractor design, automation (AI, IoT in farm machinery), logistics, and quality control. Students also engage in research methodology and a project on designing or improving a farm machine.

S.No	Course Title	Type	Credits
1	Tractor & Automotive Design for Agriculture	Skill	4
2	Automation & IoT in Farm Machinery	Skill	3
3	Agri-Logistics & Supply Chain of Equipment	Gen	3
4	Quality Assurance & Testing Standards (ISO, BIS)	Gen	3
5	Research Methods & Field Experimentation	Gen	3
6	Workshop Management & Safety	Gen	4
7	Tractor Design Simulation Lab	Skill	2
8	IoT Applications Lab (Smart Machinery)	Skill	2
9	Quality Testing Lab (Farm Equipments)	Skill	2
10	Research Project Development Lab	Skill	2
11	Workshop Management Practicum	Skill	2
<b>Total</b>			<b>30</b>

**Semester 6** – Final semester integrates engineering and management skills. Topics include advanced farm mechanization strategies, agri-engineering project management, and a major capstone project/internship (such as developing a prototype or working in an equipment company R&D).

S.No	Course Title	Type	Credits
1	Advanced Farm Mechanization & Sustainability	Gen	4
2	Project Management & Finance in Agri-Engineering	Gen	3
3	Recent Advances in Farm Machinery (Seminar)	Gen	3
4	<b>Project IV: Major Project/Internship (Final)</b>	Skill	4
5	Technical Documentation & Presentation	Skill	2
6	Farm Machinery Project Lab (Capstone Build)	Skill	4
7	Internship Report & Viva	Skill	2
8	Professional Development & Employability Skills	Gen	2
<b>Total</b>			<b>30</b>

## B.Voc in Digital Marketing

### Level 1 Certificate Course in Digital Marketing

(6 Months ,1 semester )

**Semester 1** – Provides foundation in marketing, management, and essential digital skills. Students get introduced to digital marketing concepts and basic tools, along with communication and IT skills. A small project involves market research or digital strategy basics.

S.No	Course Title	Type	Credits
1	Principles of Marketing	Gen	4
2	Fundamentals of Digital Marketing	Skill	4
3	Basics of Management & Business Environment	Gen	3
4	Business Communication	Gen	4
5	Basic Computer & Web Applications	Skill	3
6	Soft Skills and Personality Development	Gen	2
7	Digital Marketing Tools Lab (Introductory)	Skill	2
8	Computer Applications Lab	Skill	2
9	Communication Skills Lab	Skill	2
10	Soft Skills Practice Lab	Skill	2
11	<b>Project I: Market Research Project</b>	Skill	2
<b>Total</b>			<b>30</b>

### Level 2 Diploma in Digital Marketing

( 1 year 2 Semesters)

**Semester 2** – Dives deeper into digital marketing channels. Covers social media marketing, e-commerce fundamentals, advertising principles, and introduces graphic design for content creation. Students undertake a practical social media campaign project.

S.No	Course Title	Type	Credits
1	Digital Marketing Strategies & SEO	Skill	4
2	Social Media Marketing	Skill	4
3	Advertising & Public Relations	Gen	3
4	E-Commerce Fundamentals	Gen	3
5	Graphic Design for Marketing	Skill	3
6	Environmental Studies (Sustainable Marketing)	Gen	3
7	SEO & Web Analytics Lab	Skill	2
8	Social Media Content Lab	Skill	2
9	Graphic Design Lab (Adobe/Canva)	Skill	2
10	Digital Marketing Analytics Lab	Skill	2
11	<b>Project II: Social Media Campaign Internship</b>	Skill	2
<b>Total</b>			<b>30</b>

**Level 3 Advanced Diploma** in Digital Marketing  
( 2 year 4 Semester)

**Semester 3** – Focus on Content Marketing, Marketing Analytics, Consumer Behavior, and sales management. Students also learn business analytics basics. Labs involve content creation (blogging, video) and analytics using real data.

S.No	Course Title	Type	Credits
1	Content Marketing & Blogging	Skill	3
2	Search Engine Marketing (SEM) & Paid Ads	Skill	4
3	Marketing Analytics & Reporting	Gen	3
4	Consumer Behavior	Gen	3
5	Sales & Distribution Management	Gen	3
6	Entrepreneurship & Small Business Management	Gen	4
7	Content Creation Lab (Blog/Video)	Skill	2
8	SEM & Ads Management Lab	Skill	2
9	Marketing Analytics Lab (Google Analytics)	Skill	2
10	Consumer Research Lab (Survey Project)	Skill	2
11	Entrepreneurship Simulation Lab	Skill	2
<b>Total</b>			<b>30</b>

**Semester 4** – Advances into Brand Management, email / Affiliate marketing, Web analytics, and Digital Marketing Law/Ethics.

Communication skills are honed further. A 4-credit internship in a digital marketing firm or a live project is included.

S.No	Course Title	Type	Credits
1	Brand Management & Strategy	Gen	4
2	Email and Affiliate Marketing	Skill	3
3	Web Analytics & Data Metrics	Skill	3
4	Legal Issues & Ethics in Digital Marketing	Gen	3
5	Advanced Communication & Client Management	Gen	3
6	<b>Project III: Digital Marketing Internship</b>	Skill	4
7	Brand Management Lab (Campaign Planning)	Skill	2
8	Email Marketing Automation Lab	Skill	2
9	Web Analytics Lab (Google Analytics/SEO)	Skill	2
10	Digital Marketing Certification Prep Lab	Skill	2
<b>Total</b>			<b>30</b>

#### Level4 B Voc in Digital Marketing

( 3 years 6 Semesters)

**Semester 5** – Covers advanced Digital Marketing Techniques: Mobile Marketing, Influencer Marketing, Marketing Research, and Management Information Systems. Students undertake a comprehensive Digital Marketing Project (capstone campaign).

S.No	Course Title	Type	Credits
1	Mobile Marketing & App Promotion	Skill	3
2	Influencer and Viral Marketing	Skill	3
3	Marketing Research & Data Analysis	Gen	4
4	International Marketing	Gen	3
5	Management Information Systems	Gen	3
6	Capstone Digital Marketing Project	Skill	4
7	Mobile Marketing Lab	Skill	2
8	Influencer Campaign Lab	Skill	2
9	Marketing Research Lab	Skill	2
10	MIS Software Lab (CRM/ERP tools)	Skill	2
11	Capstone Campaign Lab (Project Implementation)	Skill	2
<b>Total</b>			<b>30</b>

**Semester 6** – Focuses on strategy and Integration.

Courses include strategic marketing, CRM, media planning, and an elective. The final semester features a major industry project/internship where students handle real campaigns end-to-end.

S.No	Course Title	Type	Credits
1	Strategic Marketing & Business Policy	Gen	4
2	Customer Relationship Management (CRM)	Gen	3
3	Media Planning and Buying	Skill	3
4	Emerging Trends in Digital Marketing	Gen	2
5	Elective (e.g., Retail Marketing or B2B Marketing)	Skill	3
6	<b>Project IV: Major Internship &amp; Project (Final)</b>	Skill	4
7	CRM Tools Lab (Salesforce/HubSpot)	Skill	2
8	Media Planning Lab (Ad Budget Simulation)	Skill	2
9	Portfolio Development & Presentation	Skill	2
10	Employability and Interview Skills	Gen	2
<b>Total</b>			<b>30</b>

## B.Voc in Business Analytics

### Semester 1

**Level 1 Certificate course** in Business Analytics ( 6 Months 1 Semester)

Fundamentals of analytics and business. Includes basic statistics, management principles, computing and an intro to business analytics, along with communication skills. A small project (data analysis of a simple dataset) is included.

S.No	Course Title	Type	Credits
1	Business Mathematics & Statistics – I	Gen	4
2	Introduction to Business Analytics	Skill	4
3	Principles of Management	Gen	3
4	Fundamentals of Programming (Python/R)	Skill	3
5	Business Communication	Gen	3
6	Basic Computer Applications	Gen	3
7	Business Analytics Lab (Excel Basics)	Skill	2
8	Programming Lab (Python/R)	Skill	2
9	IT Applications Lab	Skill	2
10	Communication Skills Lab	Skill	2
11	<b>Project I: Data Analysis Mini-Project</b>	Skill	2
<b>Total</b>			<b>30</b>

**Level 2 Diploma** in Business Analytics  
(1 year 2 Semester)

**Semester 2** – Builds on analytical tools: includes advanced statistics, database management, data visualization, and functional business knowledge (finance, marketing basics) to provide context for analytics. A project involves creating dashboards or reports.

S.No	Course Title	Type	Credits
1	Business Statistics – II (Probability & Inference)	Gen	4
2	Database Management Systems (SQL)	Skill	4
3	Data Visualization & Reporting (Tableau/PowerBI)	Skill	3
4	Fundamentals of Financial Accounting	Gen	3
5	Marketing & Economic Analysis	Gen	3
6	Environmental Studies (Business Context)	Gen	3
7	Database Lab (SQL Queries)	Skill	2
8	Data Visualization Lab	Skill	2
9	Accounting Software Lab (Tally/Excel)	Skill	2
10	Statistical Analysis Lab (SPSS/R)	Skill	2
11	<b>Project II: Business Dashboard Project</b>	Skill	2
<b>Total</b>			<b>30</b>

**Semester 3** – Focus on core analytics: predictive analytics, advanced Excel/Python for data science, domain analytics (like marketing or HR analytics), and operations research. Labs include case studies and predictive modeling exercises.

S.No	Course Title	Type	Credits
1	Predictive Analytics & Machine Learning Basics	Skill	4
2	Advanced Excel & Data Handling	Skill	3
3	Marketing and Sales Analytics	Skill	3
4	Operations Research & Optimization	Gen	3
5	Financial Analytics	Gen	3
6	Professional Ethics & Communication	Gen	4
7	Predictive Analytics Lab (ML models)	Skill	2
8	Advanced Excel Lab (VBA, Macros)	Skill	2
9	Domain Analytics Lab (Marketing data case)	Skill	2
10	Optimization Tools Lab (Linear Programming)	Skill	2
<b>Total</b>			<b>30</b>

**Semester 4** – Includes big data fundamentals, advanced machine learning, data mining, and cloud computing for analytics. Students also learn about data ethics and visualization storytelling. A 4-credit internship/project in a business analytics role is included.

S.No	Course Title	Type	Credits
1	Data Mining & Advanced Machine Learning	Skill	4
2	Big Data Technologies (Hadoop/Spark)	Skill	3
3	Cloud Computing for Data Analytics	Skill	3
4	Data Governance, Security & Ethics	Gen	3
5	Advanced Communication & Presentation Skills	Gen	3
6	<b>Project III: Business Analytics Internship</b>	Skill	4
7	Data Mining & ML Lab	Skill	2
8	Big Data Lab (NoSQL/Hadoop)	Skill	2
9	Cloud Analytics Lab (AWS/Azure)	Skill	2
10	Data Visualization Storytelling Lab	Skill	2
<b>Total</b>			<b>30</b>

**Level 4 B Voc** in Business Analytics  
( 3 years 6 Semesters )

**Semester 5** – Specializes in areas like AI in business, deep learning basics, project management, and domain-specific analytics (HR, Operations). Students undertake a capstone analytics project preparing them for the final internship.

S.No	Course Title	Type	Credits
1	Artificial Intelligence in Business	Gen	3
2	Deep Learning Fundamentals	Skill	3
3	HR and People Analytics	Gen	3
4	AI Tools Lab (Chatbots, NLP basics)	Gen	3
5	Deep Learning Lab (TensorFlow/Keras)	Gen	3
6	HR Analytics Lab (Workforce data)	Skill	4
7	Supply Chain Analytics	Skill	2
8	Project Management for Analytics	Skill	2
9	Capstone Analytics Project (Design & Planning)	Skill	2
10	Supply Chain Simulation Lab	Skill	2
11	Capstone Project Development Lab	Skill	2
<b>Total</b>			<b>30</b>

**Semester 6** – Integration and application. Students study strategic decision-making with analytics, and choose an elective (like healthcare or fintech analytics). The primary component is a major industry analytics project/internship (final NSQF level 7 project).

S.No	Course Title	Type	Credits
1	Strategic Management & Analytics	Gen	4
2	Elective Analytics Domain (e.g., Healthcare Analytics or FinTech Analytics)	Gen	3
3	Data Visualization & Business Storytelling	Skill	3
4	Entrepreneurship & Consulting in Analytics	Gen	2
5	<b>Project IV: Major Internship &amp; Project (Final)</b>	Skill	4
6	Project Report & Presentation	Skill	2
7	Analytics Software Deployment Lab (Deployment of models)	Skill	2
8	Business Simulation & Case Study Lab	Skill	2
9	Professional Skills & Placement Training	Gen	2
10	–		
<b>Total</b>			<b>30</b>

*(Note: The elective in Semester 6 allows specialization in a particular industry domain of analytics.)*

## B.Voc in Business Management (Generic)

**Level 1 Certificate Course** in Business Management  
(6 Months ,1 semester)

**Semester 1** – Lays the foundation in general management. Key subjects: management principles, financial accounting, economics, business communication, and IT. A small project on a business case study is included.

S.No	Course Title	Type	Credits
1	Principles of Management	Gen	4
2	Financial Accounting – I	Gen	4
3	Microeconomics for Business	Gen	3
4	Business Communication & English	Gen	3
5	Basic Computer Applications	Gen	3
6	Office Management & Soft Skills	Gen	3
7	Accounting Lab (Tally/Excel)	Skill	2
8	IT Applications Lab	Skill	2
9	Communication Skills Lab	Skill	2
10	Office Tools Lab (MS Office)	Skill	2
11	<b>Project I: Business Case Study Project</b>	Skill	2
<b>Total</b>			<b>30</b>

**Level 2 Diploma** in Business Management  
(1year , 2semesters)

**Semester 2** – Focuses on functional areas: marketing, HR, and more accounting, along with quantitative techniques and business law. Includes an internship/project (such as working in a small business or conducting a market survey).

S.No	Course Title	Type	Credits
1	Marketing Management	Gen	4
2	Financial Accounting – II	Gen	3
3	Human Resource Management	Gen	3
4	Business Mathematics & Statistics	Gen	4
5	Business Law & Corporate Governance	Gen	3
6	Environmental Studies	Gen	3
7	Marketing & Sales Lab (Practical Exercises)	Skill	2
8	Accounting Lab (Advanced)	Skill	2
9	HR Skills Lab (Recruitment/Training Roleplay)	Skill	2
10	Spreadsheet Modeling Lab (Financial Analysis)	Skill	2
11	<b>Project II: Industry Orientation Internship</b>	Skill	2
<b>Total</b>			<b>30</b>

**Level 3 Advanced Diploma** in Business Management  
(2year , 4Semesters)

**Semester 3** – Broadens into operations, finance, and organizational behavior. Introduces management information systems. Labs include case studies in operations and use of ERP software.

S.No	Course Title	Type	Credits
1	Organizational Behavior	Gen	4
2	Financial Management	Gen	4
3	Operations Management	Gen	3
4	Management Information Systems (MIS)	Gen	3
5	Entrepreneurship Development	Gen	3
6	Business Ethics & Indian Economy	Gen	3
7	Operations Management Lab (Case Study)	Skill	2
8	MIS Lab (ERP/Database Applications)	Skill	2
9	Entrepreneurship Idea Lab	Skill	2
10	Business Simulation Lab (Strategy Game)	Skill	2
<b>Total</b>			<b>30</b>

**Semester 4** – Students undertake advanced coursework in strategic management, cost accounting, and elective streams (marketing/HR/finance). A 4-credit internship/project (e.g., a management trainee role or a consultancy project) is mandatory.

S.No	Course Title	Type	Credits
1	Cost & Management Accounting	Gen	4
2	Strategic Management & Business Policy	Gen	4
3	Elective – I (Marketing/HR/Finance Specialization)	Gen	3
4	Research Methodology	Gen	3
5	Advanced Communication & Negotiation Skills	Gen	2
6	<b>Project III: Management Internship</b>	Skill	4
7	Accounting & Analytics Lab (Costing Software)	Skill	2
8	Research Data Analysis Lab (SPSS/Excel)	Skill	2
9	Specialization Skills Lab (as per Elective)	Skill	2
10	–		
<b>Total</b>			<b>30</b>

## Level 4 B Voc in Business Management

(3year , 6 Semesters)

**Semester 5** – Focus on specialization and higher-level management. Courses like international business, project management, plus Elective II. Students also do a capstone project planning.

S.No	Course Title	Type	Credits
1	International Business Management	Gen	4
2	Project Management	Gen	3
3	Elective – II (Marketing/HR/Finance)	Gen	3
4	Taxation & Regulatory Framework	Gen	3
5	Innovation & Change Management	Gen	3
6	Capstone Project (Planning & Design)	Skill	4
7	Project Management Software Lab (MS Project)	Skill	2
8	Taxation Lab (Practical Tax Filing)	Skill	2
9	Change Management Case Study Lab	Skill	2
10	Capstone Project Development Lab	Skill	2
<b>Total</b>			<b>30</b>

**Semester 6** – Integrates all learning into strategic applications. Topics include business analytics (for management decision-making), corporate strategy, and a final major project/internship (e.g., an entrepreneurial venture plan or consulting project)

S.No	Course Title	Type	Credits
1	Business Analytics & Decision Making	Gen	4
2	Corporate Strategy & Leadership	Gen	3
3	Elective – III (Marketing/HR/Finance)	Gen	3
4	Corporate Governance & Business Sustainability	Gen	2
5	<b>Project IV: Major Internship &amp; Project (Final)</b>	Skill	4
6	Project Report & Comprehensive Viva	Skill	2
7	Leadership Development Lab	Skill	2
8	Business Analytics Lab (Advanced Excel/BI tools)	Skill	2
9	Sustainability & CSR Case Lab	Skill	2
10	–		
<b>Total</b>			<b>30</b>

*(Note: Electives in Semesters 4, 5, 6 allow the student to specialize in an area of interest such as Digital Marketing, HRM, Finance, etc., within the Generic Business .Mgmt program.)*

## B.Voc in AI & Data Science

**Level 1 Certificate course** in AI & Data Science  
(6 Months , 1Semester)

**Semester 1** – Lays strong foundations in computing and mathematics. Courses include programming, discrete mathematics, basics of AI, data structures, and communication skills. A project introduces simple AI concepts.

S.No	Course Title	Type	Credits
1	Programming Fundamentals (Python)	Skill	4
2	Discrete Mathematics	Gen	4
3	Fundamentals of Computer Systems	Gen	3
4	Data Structures & Algorithms – I	Skill	3
5	Introduction to Artificial Intelligence	Gen	3
6	Communication Skills and Report Writing	Gen	3
7	Programming Lab (Python)	Skill	2
8	Data Structures Lab	Skill	2
9	AI Basics Lab (Logic, Search exercises)	Skill	2
10	IT Skills Lab (Linux & Tools)	Skill	2
11	<b>Project I: Basic AI Application Project</b>	Skill	2
<b>Total</b>			<b>30</b>

**Level 2 Diploma** in AI & Data Science  
( 1 year 2 Semesters)

**Semester 2** – Focuses on advanced programming, database systems, statistics, and machine learning foundations. Students also study operating systems and complete a data analysis project or internship.

S.No	Course Title	Type	Credits
1	Object-Oriented Programming (Java/C++)	Skill	4
2	Database Management Systems	Skill	4
3	Probability and Statistics for Data Science	Gen	4
4	Data Structures & Algorithms – II	Skill	3
5	Operating Systems Fundamentals	Gen	3
6	Environmental Studies for IT	Gen	2
7	OOP Lab	Skill	2
8	Database Lab (SQL)	Skill	2
9	Data Analysis Lab (Statistical Tools)	Skill	2
10	Operating Systems Lab	Skill	2
11	<b>Project II: Data Analytics Internship</b>	Skill	2
<b>Total</b>			<b>30</b>

**Level 3 Advanced Diploma in AI & Data Science**  
( 2 year 4 Semesters)

**Semester 3** – Introduces core AI/DS subjects: machine learning, data mining, computer networks (for data communication), and advanced mathematics (linear algebra). Labs focus on implementing ML algorithms and network simulations.

S.No	Course Title	Type	Credits
1	Machine Learning Fundamentals	Skill	4
2	Data Mining & Data Warehousing	Skill	3
3	Linear Algebra for AI	Gen	3
4	Computer Networks	Gen	3
5	Web Technologies (HTML, JS)	Skill	3
6	Professional Ethics in IT	Gen	4
7	Machine Learning Lab (Regression/Classification)	Skill	2
8	Data Mining Lab (Weka/Python)	Skill	2
9	Networks Lab (Cisco Packet Tracer)	Skill	2
10	Web Development Lab	Skill	2
<b>Total</b>			<b>30</b>

**Level 4 B Voc in AI & Data Science**  
( 3 years 6 Semesters)

**Semester 4** – Covers deep learning, big data technologies, NLP, and software engineering practices. A significant industry internship or project (4 credits) allows students to work on AI projects.

S.No	Course Title	Type	Credits
1	Deep Learning & Neural Networks	Skill	4
2	Big Data Technologies (Hadoop/Spark)	Skill	3
3	Natural Language Processing	Skill	3
4	Software Engineering & Project Management	Gen	3
5	Advanced Communication & Soft Skills	Gen	3
6	<b>Project III: AI Industry Internship</b>	Skill	4
7	Deep Learning Lab (ANN/CNN implementation)	Skill	2
8	Big Data Lab (MapReduce, Spark)	Skill	2
9	NLP Lab (Text processing)	Skill	2
10	DevOps & Software Tools Lab	Skill	2
<b>Total</b>			<b>30</b>

**Semester 5** – Specializes in AI applications: computer vision, IoT, advanced analytics, cloud computing for AI, and research methodology. Students start a capstone AI project in preparation for final semester.

S.No	Course Title	Type	Credits
1	Computer Vision & Image Processing	Skill	4
2	Internet of Things (IoT) and Sensor Networks	Skill	3
3	Cloud Computing for AI	Gen	3
4	Advanced Analytics & Business Intelligence	Gen	3
5	Research Methodology & Technical Writing	Gen	3
6	Capstone Project (Design & Prototype)	Skill	4
7	Computer Vision Lab (OpenCV)	Skill	2
8	IoT Lab (Microcontrollers/Arduino)	Skill	2
9	Cloud Deployment Lab (AWS/Azure AI Services)	Skill	2
10	BI Tools Lab (PowerBI/Tableau)	Skill	2
11	Capstone Project Development Lab	Skill	2
<b>Total</b>			<b>30</b>

**Semester 6** – Final integration of AI & DS skills. Students cover AI ethics, advanced topics, and complete a major project/Internship (capstone) where they build and deploy a full AI/data science solution.

S.No	Course Title	Type	Credits
1	AI Strategy & Ethics	Gen	4
2	Advanced Topics in AI (Robotics, Reinforcement Learning)	Gen	4
3	Entrepreneurship in Tech & Start-up Management	Gen	4
4	<b>Project IV: Major AI Project &amp; Internship (Final)</b>	Skill	4
5	Project Report, Defense & Viva	Skill	4
6	AI Deployment & Product Management	Skill	4
7	Innovation Lab (Hackathons/Challenges)	Skill	4
<b>Total</b>			<b>30</b>



# B.Voc in Cybersecurity & Forensics

**Level 1 Certificate course** in Cyber security & Forensics  
( 6 Months 1 Semester)

**Semester 1** – Introduces computing basics and networking, along with programming and an overview of cybersecurity. Also covers communication skills and IT fundamentals. A project on basic network setup is included.

S.No	Course Title	Type	Credits
1	Programming Fundamentals (C/Python)	Skill	4
2	Computer Networks – I (Basics)	Gen	4
3	Fundamentals of Information Security	Gen	3
4	Computer Organization & Operating Systems	Gen	3
5	Discrete Mathematics	Gen	3
6	Communication Skills	Gen	3
7	Programming Lab	Skill	2
8	Networking Lab (Basics & Cabling)	Skill	2
9	Security Fundamentals Lab	Skill	2
10	IT Skills Lab (OS Commands, Shell)	Skill	2
11	<b>Project I: Network Setup Project</b>	Skill	2
<b>Total</b>			<b>30</b>

**Level 2 Diploma** in Cyber security & Forensics  
( 1 year 2Semesters)

**Semester 2** – Covers advanced networking, cryptography basics, Linux administration, and web technology, plus mathematics for cryptography. An internship/project on system/network admin is included.

S.No	Course Title	Type	Credits
1	Computer Networks – II (Protocols & Architecture)	Gen	4
2	Cryptography Fundamentals	Gen	3
3	Linux Administration & Scripting	Skill	4
4	Web Technologies (HTML, JS, PHP)	Skill	3
5	Applied Mathematics for Security (Number Theory)	Gen	3
6	Environmental Studies (Cyber Environment)	Gen	2
7	Networks Lab (Routing, Switching)	Skill	2
8	Cryptography Lab (Algorithms, ciphers)	Skill	2
9	Linux & Scripting Lab	Skill	2
10	Web Development Lab	Skill	2
11	<b>Project II: IT Support Internship</b>	Skill	2
<b>Total</b>			<b>30</b>

**Level 3 Advanced Diploma** in Cyber security & Forensics  
(2years 4Semesters)

**Semester 3** – Focus on core security domains: network security, secure coding, database security, and introduction to digital forensics. Labs include configuring firewalls, writing secure code, and basic forensics exercises.

S.No	Course Title	Type	Credits
1	Network Security (Firewalls, IDS/IPS)	Skill	4
2	Secure Programming (Secure SDLC)	Skill	3
3	Database Security	Gen	3
4	Ethical Hacking – I (Reconnaissance & Exploits)	Skill	3
5	Digital Forensics Fundamentals	Gen	3
6	Professional Ethics & Cyber Law	Gen	4
7	Network Security Lab (Firewall/IDS config)	Skill	2
8	Secure Coding Lab (Vulnerabilities testing)	Skill	2
9	Ethical Hacking Lab (Penetration Testing basics)	Skill	2
10	Forensics Lab (Data imaging, hash)	Skill	2
<b>Total</b>			<b>30</b>

**Semester 4** – Advanced topics: ethical hacking II, incident response, cloud security, advanced cryptography, and cyber laws. A major internship/project (e.g., as a junior security analyst) is undertaken.

S.No	Course Title	Type	Credits
1	Ethical Hacking – II (Web & Application Security)	Skill	4
2	Incident Response & Security Operations	Skill	3
3	Cloud Security & Virtualization	Skill	3
4	Advanced Cryptography & PKI	Gen	3
5	Advanced Communication & Technical Writing	Gen	3
6	<b>Project III: Cybersecurity Internship</b>	Skill	4
7	Application Security Lab (OWASP)	Skill	2
8	Incident Response Lab (SIEM, log analysis)	Skill	2
9	Cloud Security Lab (Cloud config)	Skill	2
10	PKI & Cryptography Lab (Certificates)	Skill	2
<b>Total</b>			<b>30</b>

**Semester 5** – Specializes in advanced forensics, malware analysis, IoT security, and risk management. Students also learn project management for security. A capstone security project is initiated.

S.No	Course Title	Type	Credits
1	Digital Forensics & Investigation Techniques	Skill	4
2	Malware Analysis & Reverse Engineering	Skill	4
3	IoT and Mobile Security	Skill	4
4	IT Governance, Risk & Compliance (ISMS)	Gen	3
5	Project Management & Auditing in IT	Gen	3
6	Capstone Security Project (Design Phase)	Skill	4
7	Forensics Lab (Memory, Network forensics)	Skill	2
8	Malware Analysis Lab	Skill	2
9	IoT Security Lab (Device hacking)	Skill	2
10	Compliance & Audit Lab (ISO 27001 simulation)	Skill	2
11	–		
<b>Total</b>			<b>30</b>

**Semester 6** – Final semester consolidates cybersecurity expertise. Covers cybersecurity management, advanced threat intelligence, and requires completion of a major project/internship (e.g., a comprehensive security assessment of an organization).

S.No	Course Title	Type	Credits
1	Cybersecurity Management & Strategy	Gen	4
2	Threat Intelligence & Advanced Topics	Gen	3
3	Entrepreneurship in Cybersecurity (Startup & Consulting)	Gen	3
4	<b>Project IV: Major Security Project &amp; Internship (Final)</b>	Skill	4
5	Project Report, Presentation & Viva	Skill	2
6	Cyber Range Lab (Simulated Cyber Defense)	Skill	4
7	Threat Intelligence Lab (SIEM use cases)	Skill	4
8	Employability Skills & Interview Prep	Gen	4
9	–		
10	–		
<b>Total</b>			<b>30</b>



# B.Voc in Hotel Management & Tourism

## Level 1 Certificate Course in Hotel Management & Tourism ( 6 Months 1 Semester)

**Semester 1** – Introduces core hospitality operations. Students learn basics of food production, food & beverage service, and front office operations, alongside communication and customer service. Practical labs in kitchen and restaurant are key. A small project (like organizing a college event) is included.

S.No	Course Title	Type	Credits
1	Food Production – I (Kitchen Basics)	Skill	4
2	Food & Beverage Service – I	Skill	4
3	Front Office Operations – I	Gen	3
4	Hospitality Communication Skills (English)	Gen	3
5	Basics of Tourism & Hotel Industry	Gen	3
6	Hygiene, Sanitation & Kitchen Safety	Gen	3
7	Food Production Lab (Kitchen Practical)	Skill	2
8	F&B Service Lab (Restaurant Practical)	Skill	2
9	Front Office Lab (Reception & Reservations)	Skill	2
10	Communication Lab (Guest interaction role-play)	Skill	2
11	<b>Project I: Hospitality Event Project</b>	Skill	2
<b>Total</b>			<b>30</b>

## Level 2 Diploma in Hotel Management & Tourism 1 year 2 Semesters)

**Semester 2** – Covers housekeeping, advanced front office, regional cuisines, and travel geography. A short industry exposure (internship) at a hotel is included for 2 credits.

S.No	Course Title	Type	Credits
1	Housekeeping Operations – I (Cleaning Science)	Skill	4
2	Food Production – II (Regional Cuisines)	Skill	4
3	Front Office Operations – II (Management)	Gen	3
4	Travel & Tourism Geography	Gen	3
5	Hotel Accounting & Cost Control	Gen	3
6	Environmental Studies (Hospitality Focus)	Gen	3
7	Housekeeping Lab (Room Division Practical)	Skill	2
8	Advanced Kitchen Lab (Cuisine Practical)	Skill	2
9	Front Office Lab (Night Audit, Reservations)	Skill	2
10	Computer Applications Lab (Hotel Software)	Skill	2
11	<b>Project II: Hotel Internship (Entry-level)</b>	Skill	2
<b>Total</b>			<b>30</b>

**Level 3 Advanced Diploma** in Hotel Management & Tourism  
( 2 years 4Semesters)

**Semester 3** – Delves into advanced hospitality management: Hotel law, event management, advanced F&B (bar management), and advanced housekeeping (interior decor). Labs include bar service, event planning simulations, etc.

S.No	Course Title	Type	Credits
1	Hospitality Law & Ethics	Gen	4
2	Event Management & MICE Tourism	Gen	3
3	Food & Beverage Service – II (Bar & Beverage)	Skill	3
4	Housekeeping Operations – II (Decor & Design)	Skill	3
5	Tourism Products & Operations	Gen	3
6	Personality Development & French Language	Gen	4
7	Bar & Beverage Service Lab (Mixology)	Skill	2
8	Event Planning Lab (Banquet setup)	Skill	2
9	Housekeeping Decor Lab (Floristry, Layouts)	Skill	2
10	Foreign Language Lab (Basic French for Tourism)	Skill	2
<b>Total</b>			<b>30</b>

**Semester 4** – Emphasizes supervisory skills and specialization. Includes hospitality sales & marketing, advanced culinary arts (bakery/patisserie), travel agency management, and a 4-credit internship/project (e.g., management trainee in a hotel).

S.No	Course Title	Type	Credits
1	Hospitality Sales & Marketing	Gen	4
2	Food Production – III (Bakery & Patisserie)	Skill	3
3	Housekeeping Management (Facility Management)	Skill	3
4	Travel Agency & Tour Operations Management	Gen	3
5	Advanced Communication & Service Excellence	Gen	3
6	<b>Project III: Hotel Management Internship</b>	Skill	4
7	Bakery & Patisserie Lab	Skill	2
8	Sales & Marketing Lab (Market survey)	Skill	2
9	Housekeeping Management Lab (Inventory, Laundry)	Skill	2
10	Travel Management Software Lab	Skill	2
<b>Total</b>			<b>30</b>

**Level 4 B Voc in Hotel Management & Tourism**  
( 3 years 6 Semesters)

**Semester 5** – Focus on managerial aspects: hotel finance, HR in hospitality, advanced tourism (ecotourism, international tourism), and entrepreneurship. Students also work on a capstone project in hospitality management.

S.No	Course Title	Type	Credits
1	Financial Management for Hotels	Gen	4
2	Human Resource Management in Hospitality	Gen	3
3	International & Eco-Tourism	Gen	3
4	Entrepreneurship in Hospitality	Gen	3
5	Research Methods for Hospitality	Gen	3
6	Capstone Project (Hotel Operations Planning)	Skill	4
7	Financial Analysis Lab (Hotel Accounting)	Skill	2
8	HR Skills Lab (Training & Development)	Skill	2
9	Tourism Project Lab (Itinerary design)	Skill	2
10	Capstone Implementation Lab	Skill	2
<b>Total</b>			<b>30</b>

**Semester 6** – Final semester synthesizes all learning. Focuses on strategic management in hotels, contemporary issues (like hotel technology, sustainability), and the **final major internship/project** where students work in industry in managerial roles or complete a comprehensive project.

S.No	Course Title	Type	Credits
1	Strategic Hotel Management & Revenue Management	Gen	4
2	Contemporary Issues in Hospitality (Sustainability & Technology)	Gen	3
3	Event Planning & Catering Management (Advanced)	Skill	3
4	<b>Project IV: Major Internship &amp; Project (Final)</b>	Skill	4
5	Project Report & Viva (Comprehensive)	Skill	4
6	Hospitality Leadership & Case Studies Seminar	Gen	4
7	Hotel Revenue Management Lab (Yield simulation)	Skill	4
8	Hospitality Technology Lab (PMS, Channel Mgt)	Skill	4
9	–		
10	–		
<b>Total</b>			<b>30</b>

*(All students must complete the final Internship in a Hotel or Tourism organization and submit a project report. This fulfills the NSQF Level 7 requirements of being job-ready with managerial competencies)*



## B.Voc in Fashion Technology

**Level 1** Certificate Course in Fashion technology  
( 6 Months 1 Semester)

**Semester 1** – Emphasizes fundamental design skills. Students learn fashion illustration, basic garment construction, textile basics, and computer skills. A mini project involves creating simple garments or design prototypes.

S.No	Course Title	Type	Credits
1	Fashion Illustration & Design Concepts	Skill	4
2	Textile Science – I (Fibers & Fabrics)	Gen	3
3	Garment Construction – I (Basics)	Skill	4
4	Pattern Making & Draping – I	Skill	4
5	Basic Computer Applications (IT for Design)	Gen	3
6	Communication & Presentation Skills	Gen	2
7	Fashion Illustration Lab	Skill	2
8	Garment Construction Lab – I	Skill	2
9	Pattern Making & Draping Lab – I	Skill	2
10	Computer Applications Lab (MS Office, CAD intro)	Skill	2
11	<b>Project I: Basic Garment Design Project</b>	Skill	2
<b>Total</b>			<b>30</b>

**Level 2 Diploma** in Fashion Technology  
( 1 year 2 semesters)

**Semester 2** – Builds on design and technical

Sno	Course Title	Type	Credit
1	Textile Science	Theory + lab	6
2	Fashion Illustration	Practical	6
3	Computer Applications in Fashion	Practical	6
4	Soft Skills and Personality Development	Practical	4
5	Internship + Project		4+ 4
<b>Total</b>			<b>30</b>

**Level 3 Diploma** in Fashion Technology  
( 2 year 4semesters)

Course Title	Type	Credits
Pattern Making & Draping – I	Practical	6
Apparel Production & Quality Control	Theory + Lab	6
Surface Ornamentation Techniques	Practical	6
CAD in Fashion – I	Practical	4
Entrepreneurship Development	General	4
Industrial Training/Project	Practical	4

## Semester 4

Total Credits: 30

Course Title	Type	Credits
Pattern Making & Draping – II	Practical	6
Fashion Forecasting & Merchandising	Theory	4
CAD in Fashion – II	Practical	6
Garment Costing & Industrial Engineering	Theory + Practical	4
Marketing & Retailing in Fashion	Theory	4
Internship & Report	Practical	6

## Semester 5

**Level 2** B Voc in Fashion Technology

( 3 years 6 semesters)

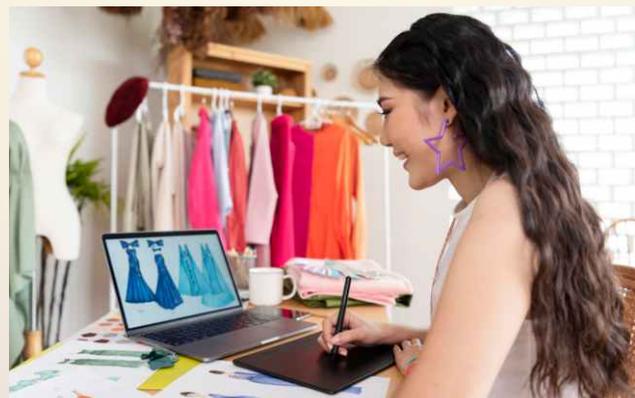
Total Credits: 30

Course Title	Type	Credits
Fashion Portfolio Development	Practical	6
Technical Textiles & Innovations	Theory	4
Advanced Garment Construction	Practical	6
Sustainable Fashion & Eco Textiles	Theory + Lab	4
Fashion Photography & Styling	Practical	4
Minor Project / Industrial Assignment	Project	6

## Semester 6 – NSQF Level 7

Total Credits: 30

Course Title	Type	Credits
Final Collection (Design & Development)	Project	10
Fashion Show & Event Management	Practical	4
Intellectual Property Rights in Fashion	Theory	4
Digital Marketing in Fashion	Theory + Practical	4
Major Project + Viva	Project	8



## B.Voc (Beauty and Wellness) Syllabus (UGC-NSQF Norms)

### **Program Overview:**

The B.Voc (Beauty and Wellness) program is a 3-year undergraduate degree designed to align with UGC and NSQF norms, providing vocational training in beauty and wellness. The program follows a semester-based system, offering 30 credits per semester, totaling 180 credits over three years. It combines theoretical knowledge with practical skills, focusing on industry readiness.

### **Program Objectives:**

1. To provide practical and theoretical knowledge of beauty and wellness.
2. To develop employability and entrepreneurial skills.
3. To impart hands-on training in modern beauty techniques.
4. To enhance communication and soft skills relevant to the industry.
5. To promote holistic well-being through traditional and modern practices.

Total Credits: 180 (30 per semester)

Core Skill Component: 60% (18 credits per semester)

General Education Component: 40% (12 credits per semester)

### **Semester-wise Course Structure**

#### **Semester I:**

- Core Skill Component (18 credits):
  - Basics of Beauty and Wellness
  - Skin Care and Facial Treatments
  - Hair Care and Basic Styling
  - Introduction to Cosmetology
- General Education Component (12 credits):
  - Communication Skills
  - Environmental Studies
  - Introduction to Wellness Industry

#### **Semester II:**

- Core Skill Component (18 credits):
  - Advanced Hair Techniques
  - Makeup and Aesthetics
  - Personal Grooming
  - Salon Operations
- General Education Component (12 credits):
  - Business Communication
  - Personality Development
  - Basic Accounting for Salons

### ***Semester III:***

- Core Skill Component (18 credits):
  - Spa and Body Therapies
  - Beauty Treatments for Special Occasions
  - Basic Ayurvedic Practices
  - Wellness and Nutrition
- General Education Component (12 credits):
  - Health and Hygiene
  - IT Skills
  - Customer Relationship Management

### ***Semester IV:***

- Core Skill Component (18 credits):
  - Advanced Makeup Techniques
  - Nail Art and Care
  - Salon Management
  - Advanced Hair Styling
- General Education Component (12 credits):
  - Entrepreneurship Development
  - Workplace Safety
  - Social Media Marketing for Salons

### ***Semester V:***

- Core Skill Component (18 credits):
  - Clinical Aesthetics
  - Cosmetology
  - Advanced Hair Treatments
  - Beauty Business Strategies
- General Education Component (12 credits):
  - Marketing and Branding in Beauty
  - Human Values and Professional Ethics
  - Salon Finance Management

### ***Semester VI:***

- Core Skill Component (18 credits):
  - Internship/Project
  - Advanced Wellness Practices
  - Client Handling Techniques
  - Cosmetic Dermatology
- General Education Component (12 credits):
  - Research Methods
  - Portfolio Development
  - Industry Trends and Innovations

### ***Assessment and Evaluation:***

- Theory Examinations: 40%
- Practical Assessments: 50%
- Internships/Project Work: 10%