

# **SGRR UNIVERSITY**

**Brochure of Value-Added Courses  
School of Pharmaceutical Sciences  
2020-2021**

# ABOUT THE UNIVERSITY

Shri Guru Ram Rai University was established by a religious and philanthropic leader, Shri Mahant Devendra Dass Ji Maharaj in the year 2017. It is situated in the heart of city, Uttarakhand. We are extremely privileged to extend the values and ethos of the Shri Guru Ram Rai Education mission through SGRR University to impart quality education and in successfully placing more than 80% students in various companies across the globe. SGRR University has humongous campus spread over 80 acres of land. Its state-of-art facilities give opportunities to develop leadership skills and to achieve professional excellence. It has 7000+ students from different countries, 29 states and Union Territories and providing cultural melange and global exposure to our students. One of the biggest boosts from University is its unmatched experience of delivering quality education that helps to develop confidence and will give you more knowledge, industry exposure, building good networking and high self-esteem. This will change your overall personality and develop you into a complete professional to face any challenge.

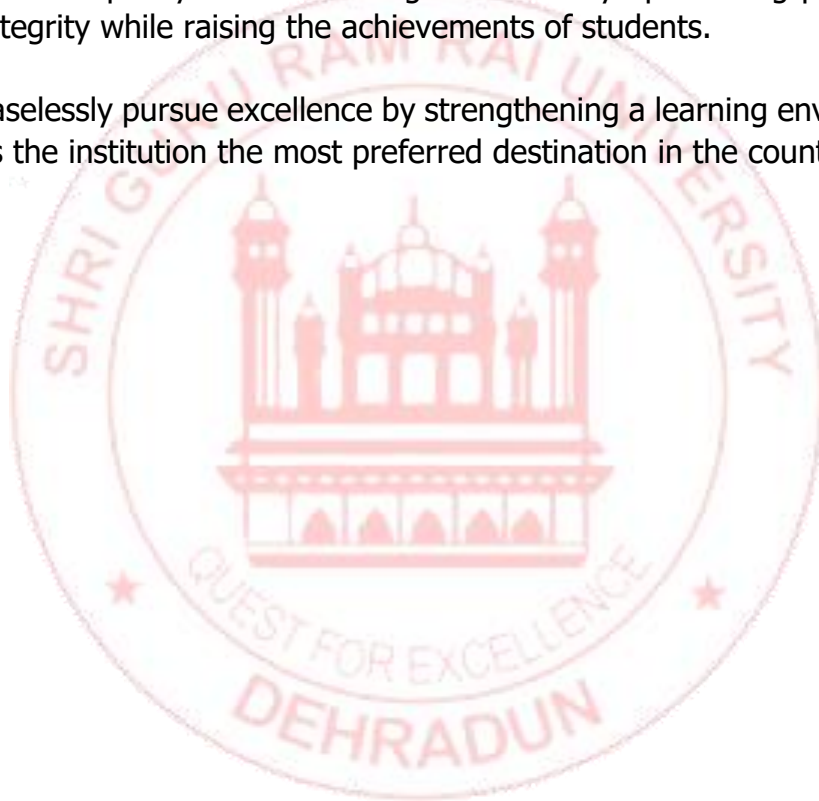
## Vision

“To establish Sri Guru Ram Rai University to be a Center of Excellence in higher education, innovation and social transformation by nurturing inquisitive and creative minds and by enabling the stakeholders to become committed professionals and educators of national and global relevance.”

## Mission

- ❖ To provide a comprehensive and sustainable educational experience that fosters the spirit of enquiry, scientific thinking and professional competence along with ethical and spiritual values
- ❖ To deliver a classic, well rounded learning experience that is distinctive and impactful on the young generation preparing them for a successful career
- ❖ To engage, inspire and challenge the stakeholders to become leaders with ethics and positive contributors to their chosen field and humane citizens
- ❖ To attract, train and retrain qualified staff to work efficiently to bring forth the maximum resource potential

- ❖ To develop committed and responsible professionals who work for the welfare of the society by providing innovative and efficient solutions and creating long term relationship with the stakeholders
- ❖ To create a sustainable career, by collaborating with stakeholders and participating in community partnership for life and livelihood in the local society in a responsive and dynamic way
- ❖ To make our students globally competent by introducing specialized training leading to professional capabilities and developing diverse skills in them for competitive advantage.
- ❖ To establish quality standards for generations by epitomising professionalism and integrity while raising the achievements of students.
- ❖ To ceaselessly pursue excellence by strengthening a learning environment that makes the institution the most preferred destination in the country.



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## INTRODUCTION

The ever-changing global scenario makes the world more modest and needs high levels of lateral thinking and the spirit of entrepreneurship to cope up with the emergent challenges. Many a times, the defined skill sets that are being imparted to students today with Programme Specific Objectives in educational institutions become redundant sooner or later due to rapid technological advancements. No university curriculum can adequately cover all areas of importance or relevance. It is important for higher education institutions to supplement the curriculum to make students better prepared to meet industry demands as well as develop their own interests and aptitudes.

### **Objectives The main objectives of the Value-Added Course are:**

- ✓ To provide students an understanding of the expectations of industry.
- ✓ To improve employability skills of students.
- ✓ To bridge the skill gaps and make students industry ready.
- ✓ To provide an opportunity to students to develop inter-disciplinary skills.
- ✓ To mould students as job providers rather than job seekers.

Course Designing The department interested in designing a Value Added Course should undertake Training Need Analysis, discuss with the generic employers, alumni and industrial experts to identify the gaps and emerging trends before designing the syllabus.

### **Conduction of value added courses :**

Value Added Course is not mandatory to qualify for any programme and the credits earned through the Value-Added Courses shall be over and above the total credit requirement prescribed in the curriculum for the award of the degree. It is a teacher assisted learning course open to all students without any additional fee.

Classes for a VAC are conducted during the RESERVED Time Slot in a week or beyond the regular class hours The value-added courses may be also conducted during weekends / vacation period. A student will be permitted to register only one Value Added Course in a Semester.

student will be encouraged to opt for the VAC offered by his/her parent Department/Faculty. Industry Experts / Eminent Academicians from other Institutes are eligible to offer the value-added course. The course can be offered only if there are at least 5 students opting for it. The students may be allowed to take value added courses offered by other departments after obtaining permission from Dean offering the course. The duration of value added course is 30 hours with a combination 18

hours (60%) of theory and 12 hours (40%) of practical. However, the combination of theory and practical shall be decided by the course teacher with the approval of the Dean

## **GUIDELINES FOR CONDUCTING VALUE ADDED COURSES**

- ❖ Value Added Course is not mandatory to qualify for any program.
- ❖ It is an instructor supported learning course open to all students without any added fee.
- ❖ Classes for VAC will be conducted during the **RESERVED** Time Slot in a week or beyond the regular class hours.
- ❖ The value-added courses may be also conducted during weekends / vacation period.
- ❖ A student will be permitted to register only one Value Added Course in a Semester.
- ❖ Students may be permitted to enrol in value-added courses offered by other departments/ Schools after obtaining permission from the Department's Head offering the course.

## **DURATION AND VENUE**

- ❖ The duration of value-added course should not be less than 30 hours.
- ❖ The Dean of the respective School shall provide class room/s based on the number of students/batches.
- ❖ VAC shall be conducted in the respective School itself.

## **REGISTRATION PROCEDURE**

The list of Value-Added Courses, along with the syllabus, will be available on the University Website. A student must register for a Value-Added Course offered during the semester by completing and submitting the registration form. The Department Head shall segregate according to the option chosen and send it to the Dean of the school offering the specific Value-Added Courses.

- ❖ Each faculty member in charge of a course is responsible for maintaining Attendance and Assessment Records for candidates who have registered for the course.
- ❖ The Record must include information about the students' attendance and Assignments, seminars, and other activities that were carried out.
- ❖ The record shall be signed by the Course Instructor and the Head of the Department at the end of the semester and kept in safe custody for future verification.
- ❖ Each student must have a minimum of 75% attendance in all courses for the semester in order to be eligible to take certificate.

- ❖ Attendance requirements may be relaxed by up to 10% for valid reasons such as illness, representing the University in extracurricular activities, and participation in NCC.
- ❖ The students who have successfully completed the Value Added Course shall be issued with a Certificate duly signed by the Authorized signatories.



## Quality Control in Herbal Drugs

**Course Code: VAC2020-24**

### **Course Objectives-**

The course aims to equip participants with a comprehensive understanding of quality control principles in the context of herbal drugs. Participants will gain knowledge of the regulatory requirements, identify key components, and comprehend the significance of batch consistency in herbal drug manufacturing. Through practical application, they will learn to use analytical techniques, implement standard operating procedures, and apply quality control measures to ensure compliance with Good Manufacturing Practices. The course also emphasizes the analysis of factors influencing herbal drug variability and the evaluation of environmental impacts on raw materials. Ultimately, participants will develop the skills to design and implement effective quality control plans, create testing protocols, and critically assess the effectiveness of these measures in maintaining the consistency and safety of herbal drugs.

### **Course Outcomes- After this course, participants will be able to-**

- Define the basic principles of quality control in herbal drugs.
- Explain the importance of batch-to-batch consistency in herbal drug manufacturing.
- Apply analytical techniques for assessing the quality of herbal raw materials.
- Evaluate the reliability and precision of different analytical methods.
- Design a comprehensive quality control plan for a herbal drug manufacturing price.

### **Course Content:**

#### **Module I:**

Introduction to Quality Control in Herbal Drugs- Overview of Herbal Drugs, Basics of Quality Control

#### **Module II:**



Components of Herbal Drugs and Variability- Phytochemical Constituents, Plant Identification and Authentication

**Module III:**

Analytical Techniques in Quality Control- Chromatographic Techniques, Spectroscopic Techniques

**Module IV:**

Good Manufacturing Practices (GMP) and Quality Control Measures-GMP in Herbal Drug Manufacturing, Quality Control Measures

**Module V:**

Case Studies and Advanced Topics- Case Studies in Quality Control Challenges, Advanced Topics in Herbal Drug Quality Control

**References:**

- "Quality Control Methods for Medicinal Plant Materials" by World Health Organization (WHO)
- "Quality Control of Herbal Medicines and Related Areas" by Pulok K. Mukherjee
- "Quality Control and Evaluation of Herbal Drugs: Regulatory Perspectives" by Pulok K. Mukherjee
- "Botanical Medicines: The Desk Reference for Major Herbal Supplements" by Dennis J. McKenna, Kenneth Jones, Kerry Hughes

## Basic Introduction to Chromatographic Techniques

Course Code: VAC2020-25

### Course Objectives-

The course aims to provide participants with a fundamental understanding of chromatography techniques. By the end of the course, participants will be able to articulate the basic principles and applications of chromatography, distinguishing between various types such as high-performance liquid chromatography (HPLC), gas chromatography (GC), and thin-layer chromatography (TLC). They will gain hands-on experience in sample preparation, column chromatography, and detection methods. The course objectives include achieving proficiency in interpreting chromatograms, understanding separation mechanisms, and applying chromatography to analyze complex mixtures. Overall, participants will develop the foundational knowledge and practical skills necessary for utilizing chromatography techniques in diverse scientific and analytical contexts.

### Course Outcomes- After this course, participants will be able to-

- Define the basic principles of chromatography.
- Explain the significance of chromatography in analytical chemistry.
- Utilize instrumentation for Gas Chromatography, High-Performance Liquid Chromatography, and Thin-Layer Chromatography.
- Analyze chromatograms to interpret results and identify components.
- Design and execute chromatographic experiments for specific analytical goals.

### Course Content-

#### Module I :

Introduction to Chromatography- Overview of Chromatography, Principles of Chromatography

#### Module II :

Gas Chromatography (GC)- Basics of Gas Chromatography, Applications of Gas Chromatography

#### Module III :

## High-Performance Liquid Chromatography (HPLC)- Introduction to HPLC, Applications of HPLC

### **Module IV :**

Thin-Layer Chromatography (TLC)- Basics of Thin-Layer Chromatography, Applications of TLC

### **Module V :**

Advanced Techniques and Future Trends- Recent Advances in Chromatography, Future Trends in Chromatography

### **References :**

- "Chromatography: Concepts and Contrasts" by James M. Miller and Jane C. Miller
- "Introduction to Modern Liquid Chromatography" by Lloyd R. Snyder, Joseph J. Kirkland, and John W. Dolan
- " Gas Chromatography and Mass Spectrometry: A Practical Guide" by O. David Sparkman
- "Practical High-Performance Liquid Chromatography" by Veronika R. Meyer
- "Modern HPLC for Practicing Scientists" by Michael W. Dong

# Industrial Safety and Hygiene

**Course Code: VAC2020-26**

## **Course Objectives:**

Main objectives of this course is to equip participants with a comprehensive understanding of essential principles and practices crucial for maintaining a secure and healthy work environment in industrial settings. The primary objectives of this course include fostering an in-depth knowledge of occupational hazards, risk assessment, and mitigation strategies. Participants will delve into the study of relevant safety regulations, standards, and compliance measures, gaining the skills necessary to implement and monitor safety protocols effectively. Furthermore, the course emphasizes the importance of promoting a culture of safety and hygiene within industrial organizations, encouraging participants to develop proactive measures for accident prevention.

## **Course Outcomes- After this course, participants will be able to-**

- Recall relevant occupational health and safety regulations
- Summarize the impact of occupational hazards on employee health and well-being.
- Develop and implement emergency response plans tailored to specific industrial scenarios.
- Evaluate the effectiveness of safety management systems in preventing accidents and ensuring compliance.
- Develop educational materials and training programs to promote a culture of safety within industrial organizations.

## **Course Content-**

### **Module I :**

Introduction to Industrial Safety and Hygiene- Overview of Industrial Safety, Industrial Hygiene Fundamentals,

### **Module II :**

Occupational Health and Safety Legislation- Regulatory Framework, Case Studies

### **Module III :**

Hazard Identification and Risk Assessment- Hazard Recognition, Risk Assessment, Application of risk matrices

**Module IV :**

Safety Management Systems- Introduction to Safety Management, Emergency Response Planning

**Module V:**

Workplace Ergonomics and Industrial Hygiene- Ergonomic Principles, Industrial Hygiene Monitoring

**References:**

- "Introduction to Industrial Hygiene" by Ronald M. Scott
- "Safety and Health for Engineers" by Roger L. Brauer
- "Industrial Safety and Health Management" by C. Ray Asfahl
- "Occupational Health and Safety Management: A Practical Approach" by Charles D. Reese
- "Safety Professional's Reference and Study Guide" by W. David Yates
- "Guidelines for Process Safety in Bioprocess Manufacturing Facilities" by CCPS (Center for Chemical Process Safety)

## Professional Etiquette

Course Code: VAC2020-27

### Course Objectives-

The course on Professional Etiquette aims to equip participants with the essential skills and knowledge required for navigating the professional landscape with courtesy, respect, and professionalism. Objectives include fostering an understanding of appropriate communication methods in diverse professional settings, developing polished interpersonal skills, and cultivating a heightened awareness of workplace norms. Participants will learn to navigate social interactions, both in-person and digital, with tact and cultural sensitivity. Additionally, the course seeks to instil a sense of professionalism in various professional contexts, emphasizing the importance of ethical conduct, effective collaboration, and the creation of a positive and inclusive professional image.

### Course Content-

#### Module I:

Foundations of Professional Etiquette- Introduction to Professionalism, Importance of Professional Etiquette,

#### Module II:

Communication Etiquette- Verbal Communication, Written Communication

#### Module III :

Interpersonal Skills- Networking Etiquette, Conflict Resolution and Diplomacy

**Module IV:** Digital Etiquette- Online Professional Presence, Virtual Meeting Etiquette

**Module V:** Cross-Cultural and Diversity Etiquette- Cultural Sensitivity, Inclusivity and Diversity,

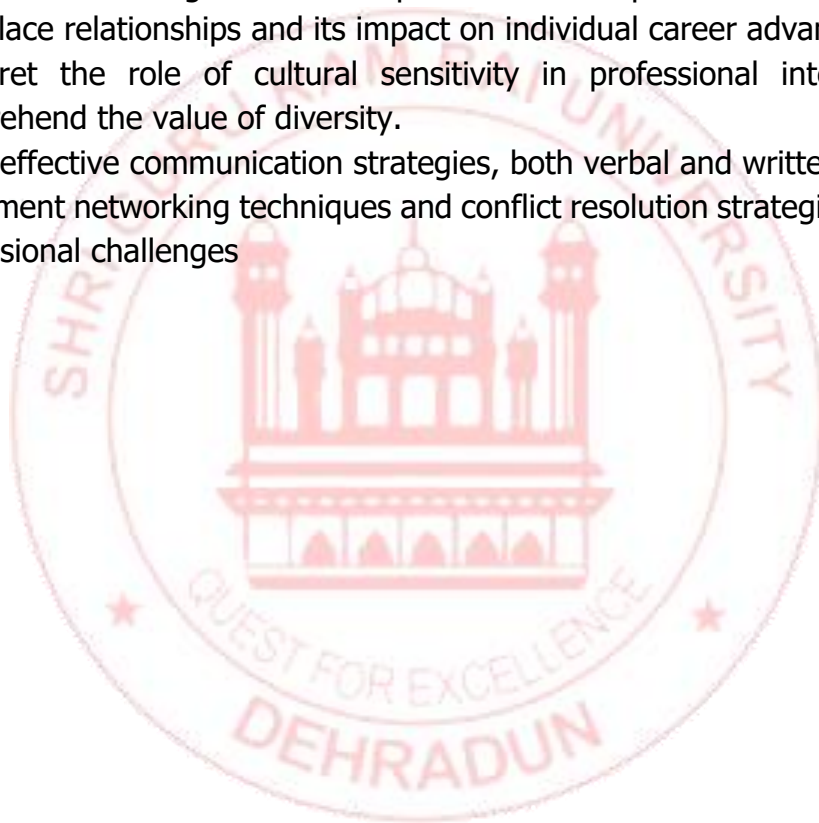
### References:

- "The Etiquette Advantage in Business" by Peggy Post and Peter Post

- "Emily Post's Etiquette, 19th Edition: Manners for Today" by Peggy Post, Anna Post, Lizzie Post, and Daniel Post Senning
- "Business Etiquette For Dummies" by Sue Fox
- "The Art of Civilized Conversation: A Guide to Expressing Yourself With Style and Grace" by Margaret Shepherd and Sharon Hogan
- "Communicating Effectively For Dummies" by Marty Brounstein

**Course Outcomes- After this course, participants will be able to-**

- Recall the fundamental principles of professional etiquette.
- Memorize key elements of verbal and written communication etiquette
- Understand the significance of professional etiquette in building positive workplace relationships and its impact on individual career advancement.
- Interpret the role of cultural sensitivity in professional interactions and comprehend the value of diversity.
- Apply effective communication strategies, both verbal and written
- Implement networking techniques and conflict resolution strategies to navigate professional challenges



## Safety in Laboratory

Course Code: VAC2020-28

### Course Objectives-:

The course on Safety in Laboratory aims to provide participants with a comprehensive understanding of essential safety protocols and practices crucial for working in laboratory environments. Objectives include cultivating a thorough awareness of potential hazards associated with laboratory work, instilling proficiency in the correct handling of hazardous materials, and promoting the use of personal protective equipment. Participants will learn to assess and mitigate risks, understand emergency response procedures, and adhere to laboratory safety regulations. Additionally, the course emphasizes the development of a safety culture within laboratories, encouraging responsible conduct and collaboration to ensure the well-being of individuals and the integrity of experimental work. Overall, the course objectives aim to equip participants with the knowledge and skills necessary to create and maintain a safe laboratory environment.

### Course Content-

**Module I :** Introduction to Laboratory Safety- Understanding Laboratory Hazards, Importance of Laboratory Safety

**Module II:** Hazardous Materials Handling- Chemical Safety, Biological Safety

**Module III:** Personal Protective Equipment (PPE) and Emergency Response- Proper Use of PPE, Emergency Response Procedures

**Module IV :** Laboratory Equipment Safety- Instrumentation Safety, Electrical Safety

**Module V :** Establishing a Safety Culture- Safety Training and Communication, Collaborative Safety Practices

### References:

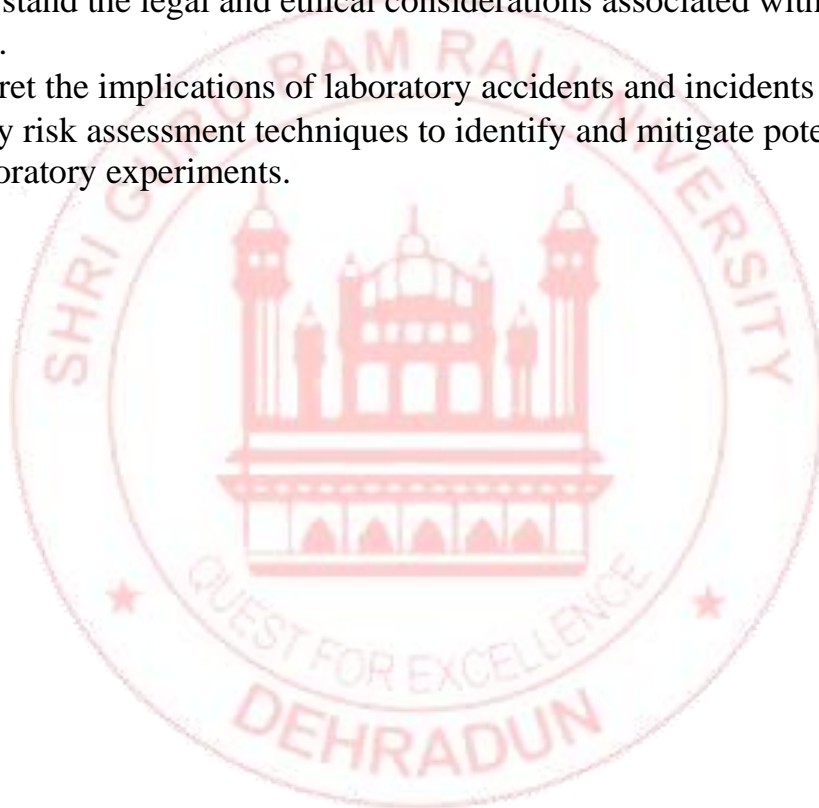
- "Safety in the Biology Laboratory" by Jeffrey J. W. Baker
- "Laboratory Safety: Theory and Practice" by Howard H. Fawcett and Ann H. Fawcett



- "Safety in the Chemistry and Biochemistry Laboratory" by Lorraine D. Misuraca and Robert H. Hill Jr.
- "Laboratory Safety: Principles and Practices" by Neal Langerman
- "Laboratory Safety for Chemistry Students" by Robert H. Hill Jr. and David C. Finster

**Course Outcomes- After this course, participants will be able to-**

- Recall the fundamental principles of laboratory safety, including the identification of common hazards
- Memorize the proper handling, storage, and disposal procedures for different categories of hazardous materials
- Understand the legal and ethical considerations associated with laboratory safety.
- Interpret the implications of laboratory accidents and incidents
- Apply risk assessment techniques to identify and mitigate potential hazards in laboratory experiments.



## Health Education and First aid Treatment

Course Code: VAC2020-29

### Course Objectives-

This course makes students understand the importance of health, wellness and nutrition in daily life. This will benefit the students to understand about the cause and prevention of certain diseases. Furthermore, the First aid skills taught under this course are beneficial for life and the techniques under this program are life saving. Medical emergencies are encountered by many of us and very few know how to deal with it. This course also bridges the gap between an incident being discovered and the arrival of emergency services.

### Course Content-

**Module I:** Introduction- Introduction to health, wellness, models of health and types of abuses.

**Module II :** Basis of health and diseases- Basic introduction to types of diseases, their causes and possible recoveries.

**Module III :** Nutrition- Basics of Nutrition and Fitness, food pyramids, nutrients and fitness.

**Module IV :** First Aid For burning, and other emergency conditions.

**Module V -** Demonstration of CPR.

### References:

- Ewles L and SimnetI, Promoting Health: A Practical Guide To Health Education.
- Manoj Sharma: Theoretical Foundations of Health Education and Health Promotion
- Haralambos& Holborn Sociology: Themes and Perspectives by Karen Glanz, Barbara K. Rimer, and K. Viswanath.
- Dr Sunder Lal ,Dr Adarsh and Dr Pankaj :Textbook of Community Medicine.
- K. Park, Park's Textbook of preventive and social medicine
- LathaGanti Stead and S. Matthew Stead: Basic Nursing and First Aid. 1. " First Aid Radiology for the Wards (First Aid Series)

- Alton L Thygerson.: First Aid and CPR. 1. “First Aid, CPR and AED Standard: Meets the Most Current and ECC Guidelines”.

**Course Outcomes: At the end of the course students will be able to...**

- Know about models of health and types of abuses.
- Describe the behavioural, environmental & genetic risk factors for chronic diseases.
- Explain the role of Nutrition in body fitness.
- Learn about first aid in burning & other emergency conditions.

