

# Paramedical

## Introduction

Paramedical Science is a rapidly evolving profession, which combines aspects of pre-hospital emergency care and primary health care. Professionals working in the field will be expanding their scope into various extended care practitioner roles, such as paramedic practitioners and the remote area practitioner.

The major areas of work in the field of paramedical sciences are spinal injury management, fracture management, obstetrics, management of burns and assessment, and evaluation of general accident scene. The increasing demand for skilled paramedical professionals has opened up several career opportunities for young aspirants. Many paramedical institutes offer courses in the field of Para - Medicine, at degree and diploma levels. Some of the popular paramedical courses are explained below.

## Skill Set

- Keen interest in Biology & Mathematics
- Hardworking
- Good communication skills
- Research And analytical skills
- Computational skills
- Aptitude for life Sciences
- Critical Thinking & Record keeping

## Eligibility

1	BPT- Bachelor of Occupational therapy	3.5 Years	10+2 PCB
2	BPT – Bachelor of Physio/Physical Therapy	3.5 Years	10+2 PCB
3	Prosthetic and Orthotic Engineering	3 Years	10+2 PCB
4	BSc ( Audiology and Speech Therapy)	3 Years	10+2 PCB
5	BSc ( Ophthalmic Technology)	3 Years	10+2 PCB
6	Bachelor ( Mental Rehabilitation )-BMR	3 Years	10+2 PCB
7	BSc ( Human Biology)	3 Years	10+2 PCB
8	BSc ( Radiology)	3 Years	10+2 PCB
9	BSc ( Radio Therapy)	3 Years	10+2 PCB
10	BSc ( Nuclear Medicine)	3 Years	10+2 PCB
11	BSc ( Respiratory Therapy Technology)	3 Years	10+2 PCB
12	BSc ( Medical Technology X-Ray)	3 Years	10+2 PCB
13	BSc ( Medical Secretarial Service)	3 Years	10+2 PCB
14	BSc ( Operation Theaters )	3 Years	10+2 PCB
15	BSc ( Medical Laboratory Technology )	3 Years	10+2 PCB
16	BSc ( Allied Health Services)	4 Years	10+2 PCB
17	BSc ( Bio – Medical Technique )	1.5 Years	BSc BZC
18	Bachelor of Speech, Language and Hearing (BSLH)	3 Years	10+2 PCB
19	Bachelor of Naturopathy and Yogic Science		

## Introduction of various Paramedical Courses-

### Occupational Therapy

Occupational therapy is the only profession that helps people across the lifespan to do the things they want and need to do through the therapeutic use of daily activities (occupations). Occupational therapy practitioners enable people of all ages to live life to its fullest by helping them promote health, and prevent—or live better with—injury, illness, or disability.

Occupational therapy services typically include:

- An individualized evaluation, during which the client/family and occupational therapist

determine the person's goals,

- Customized intervention to improve the person's ability to perform daily activities and reach the goals, and
  - An outcomes evaluation to ensure that the goals are being met and/or make changes to the intervention plan.

Occupational therapy practitioners have a holistic perspective, in which the focus is on adapting the environment and/or task to fit the person and the person is an integral part of the therapy team. It is an evidence-based practice deeply rooted in science.

## Physiotherapy

The treatment of disease, injury or deformity by physical methods such as massage, heat treatment, and exercise rather than by drugs or surgery. The healthcare professionals who provide physiotherapy are called physiotherapist.

As professionals, physiotherapists are experts at providing physiotherapy treatment for:

- Preventing injury and disability;
- Managing acute and chronic conditions;
- Improving and maintaining optimal physical performance;
- Rehabilitating injury and the effects of disease or disability;
- Educating patients to prevent re-occurrence of an injury.

Physiotherapists are required to maintain close physical contact with their patients; they must not shy away from such closeness, or be unwilling to demonstrate exercise methodology. Compassion, empathy, friendliness, good communication and patience are a must.

## Prosthetic and Orthotic Engineering

Medical Orthotist/Prosthetists design and make artificial limbs (prosthetics) and surgical appliances such as splints, braces and surgical shoes (orthotics). These specialists work in a team with the surgeon, physiotherapist, occupational therapist and nursing staff. They also deal directly with patients.

Prosthetics and orthotics are clinical disciplines that deal with artificial limbs (protheses) for people with amputations and supportive devices (orthoses) for people with musculoskeletal weakness or neurological disorders.

## Audiology and Speech Therapy

Speech therapy is an allied branch of health sciences related to the disorder of speech, voice, and language of a person. Speech therapy and audiology have become promising career options in recent times. A person who has a degree or diploma in speech therapy is called a speech therapist. In daily practice, a speech therapist works with people who have difficulty speaking, forming words or sounds, or who are recovering from injury, illness or trauma that has affected their ability to communicate verbally.

Speech therapists and audiologists also work with old people/ grown-ups who may have lost their ability to communicate due to medical reasons such as strokes, accidents, removal of larynx (because of cancer.). Among other things, a speech therapist's job includes working with people who stammer, stutter and lisp by teaching them vocal exercises to improve their diction and articulation. They also teach sign language to those who are completely incapable of speech.

## Ophthalmic Technology

Ophthalmic Technologists are specialists in eye health care that assist the Ophthalmologist in caring the patient. They are trained to collect medical histories, administer eye medications, and perform tests that help to ensure the accurate diagnosis and treatment of a diseased eye.

Ophthalmology technologists work in a number of capacities, including assisting during eye surgery and setting up and performing maintenance on equipment. In addition, ophthalmology

technologists often perform diagnostic testing, including measuring a patient's vision. Technologists in this career field must be familiar with ophthalmic pharmacology and understand the use of corrective lenses.

## **Mental Rehabilitation**

Psychiatric rehabilitation is generally an extensive field of study focused on preparing counselors to work with physically and emotionally disabled individuals. Psychiatric rehabilitation involves working with people who have mental and emotional disorders. These counselors may work in treatment facilities, hospitals, clinics or community health facilities. Graduate study and a license is required.

Most psychiatric rehabilitation counselors work in special treatment facilities, hospitals, private clinics, and community health facilities. Counselors work closely with physicians, social workers, psychiatric nurses, other mental health counselors, and psychologists.

## **Human Biology**

A degree in human biology typically covers human anatomy and physiology. The first step in finding employment in the field of human biology is to earn a bachelor's or associate's degree in a related discipline. Common careers in human biology for an undergraduate degree include forensic science technicians, sales representatives in pharmaceuticals, and biological lab technicians. Students of human biology often go on to complete a master's degree in order to have more employment opportunities. Postsecondary education in human biology begins with coursework in human physiology, anatomy and biology. Advanced classes typically cover topics like the human nervous system, lymphatic system and biochemistry. Students can gain expertise on biological functions and chemical reactions within the human body.

## **Radiography**

Radiography is an imaging technique using X-rays to view the internal structure of an object. To create the image, a beam of X-rays, a form of electromagnetic radiation, is produced by an X-ray generator and is projected toward the object.

A radiographer (or medical imaging technologist) is a university-trained health professional who works with cutting edge technology to produce X-rays, CT (computed tomography) scans, MRI (magnetic resonance imaging) scans and other medical images to assist clinical radiologists and other doctors diagnose, monitor or treat a patient's injury or illness.

## Radio Therapy

Radiotherapy uses high-energy rays to treat disease. It can be given both externally and internally.

- External radiotherapy aims high-energy x-rays at the affected area using a large machine.
- Internal radiotherapy involves having radioactive material placed inside the body.

Radiation therapists are part of the oncology team that treats patients with cancer. They often work with the following specialists: Radiation oncologists, physicians who specialize in radiation therapy.

## Nuclear Medicine

Nuclear Medicine is a diagnostic medical imaging and treatment speciality. It combines elements of Applied Anatomy, Physiology, Chemistry, Physics, Mathematics and Computing with patient care skills. Radioactive tracers are administered to patients in order to diagnose and/or treat disease.

Nuclear Medicine differs from other imaging techniques such as X-ray and CT in terms of its potential to provide minute information about the function of the systems of the body.

Enhanced roles in the area include conducting cardiac stress testing, reporting and teaching. Technologists may also be promoted to management roles. Additionally, career opportunities exist within the education industry for experienced technologists.

## **BSc. (Respiratory Therapy Technology)**

Respiratory Therapy is a relatively new branch of Allied Health Sciences and a profession devoted to the scientific application of technology in order to assist in the diagnosis, treatment, management and care of patients with cardiopulmonary and associated disorders. Respiratory therapists are the important members of the health care team, who work under the medical direction of specialised doctors. They are educated to treat all age groups, from newborns to the elderly and offer intensive care and therapeutic treatments to patients with respiratory diseases. They work with other health care professionals and carry out treatment plans, which involve removing mucus or liquid secretion from a patient's lungs by suction or inserting a ventilation tube into the patient's windpipe and connecting it to a machine that delivers oxygen. Respiratory therapists work also involves management, disease prevention, emergency care, and the early detection of pulmonary disorders.

## **BSc (Medical Technology X-Ray)**

X-Ray technicians, also known as radiologic technicians, produce x-ray images of different parts of the body. They introduce non-radioactive substances into the bloodstream of patients to aid in the diagnosis of specific conditions. A Bachelor of Science in Radiologic Technology or Radiology program not only trains students to work as x-ray technicians, but also prepares them for supervisory and teaching positions at hospitals, medical schools, clinics and physical therapy centers.

## **BSc (Medical Secretarial Service)**

Medical secretary's job responsibilities may involve recording medical histories, completing insurance paperwork and arranging for patients' hospital procedures. Some medical secretaries work with medical doctors and scientists in research settings as well, transcribing dictation, making arrangements for speeches and conference engagements and assisting with articles and reports. Still others find employment in hospitals and outpatient care centers.

## **BSc (Operation Theatres)**

The Operation Theater and Anesthesia Technologist are responsible for direct and indirect patient care, equipment set up and operation procedures. They are trained to assist the

surgeons during the procedures and assume responsibility for completion of other functions as assigned. B.Sc. OTT program lays special emphasis on

- Applied Anatomy and Physiology
- Clinical Pharmacology
- Clinical microbiology
- Medical Ethics.
- Anaesthetic techniques
- CSSD Procedures
- Intensive care

### **BSc (Medical Laboratory Technology)**

Medical Laboratory Technology also called Clinical laboratory science is an allied health profession which is concerned with the diagnosis, treatment and prevention of disease through the use of clinical laboratory tests. These tests help doctors to detect, diagnose and treat diseases. A Medical Laboratory Technologist (MLT) do tests by analyzing body fluids, tissues, blood typing, microorganism screening, chemical analyses, cell counts of human body etc. They play an important role in collecting the information's needed, sampling, testing, reporting and documentation of these investigations. They determine the presence, extent or absence of disease and provide data needed to evaluate the effectiveness of treatment.

### **BSc (Allied Health Services)**

Allied health professions are health care professions distinct from nursing, medicine, and pharmacy. They work in health care teams to make the health care system function by providing a range of diagnostic, technical, therapeutic and direct patient care and support services that are critical to the other health professionals they work with and the patients they serve. Degree programs in allied health typically prepare students to pursue a variety of supportive healthcare occupations.



Some allied health job options include medical assisting, surgical assisting, blood banking, cardiovascular technology, kinesiotherapy, exercise physiology, medical illustration, surgical technology and exercise physiology.

## **BSc (Bio - Medical Technique)**

A biomedical scientist is a scientist trained in biology, particularly in the context of medicine. These scientists work to gain knowledge on the main principles of how the human body works and to find new ways to cure or treat disease by developing advanced diagnostic tools or new therapeutic strategies. The research of biomedical scientists is referred to as biomedical.

## **Bachelor of Speech, Language, & Hearing (BSLH)**

OBD Bachelor of Speech Language & Hearing (BSLH) - The undergraduate program in speech, language, and hearing sciences (SLHS) introduces concepts basic to human communication, and provides opportunities for students to acquire an understanding of normal and disordered speech, language, and hearing processes.

## **Bachelor of Naturopathy & Yogic Science**

Bachelor of Naturopathy & Yogic Sciences Yoga Course Application Bachelor of Naturopathy and Yogic Sciences (B.N.Y.S.) is a medical graduation in naturopathy and yoga. The total tenure of the course is 5 and 1/2 years (4 and 1/2+1). This is a unique medical graduation combining the knowledge of modern medicine and the wisdom of tradition.

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