

## Academic Programs at HBNI

**Ph.D.** degrees in varied disciplines (Chemical Sciences, Engineering Sciences, Life Sciences, Mathematical Sciences, Medical & Health Sciences, Physical Sciences and Applied Systems Analysis) are offered at all CIs and OCC. Students are also encouraged to carry out doctoral research in inter-disciplinary areas with two guides from two different research domains. Some CIs and OCC also offer an integrated Ph.D. programme (single as well as double degree). The integrated, double degree programs enable students to acquire an MSc degree in addition to Ph.D.

**PGD** in Engineering sciences, Chemical Sciences, Life Sciences and Physical Sciences. These programmes consist of one year of course work. By carrying out an additional year of project work, the students of chemical sciences, physical sciences and engineering sciences can get a M.Phil or M.Tech degree. While the course work is offered at all campuses of BARC Training School and IPR, project work is offered at BARC, IGCAR, RRCAT, VECC, IPR and some other units of DAE.

**M.Sc. (Engg)** in which research content is more than that in M.Tech. programme. The duration of the project work under this programme is one and half years, while the duration of the course work is up to one year. This programme is offered at BARC, IGCAR, VECC and IPR and has been tailored for the employees of the Department of Atomic Energy.

**M.Sc. (Nursing)** and **M.Sc. (Clinical Research)** are of two-year duration, with emphasis on oncology, are offered at TMC. **M.Sc. (Physics)** is offered at HRI, Prayagraj (Allahabad).

**Integrated M.Sc.** of five-year duration in Chemical Science, Life Science, Mathematical Science and Physical Science is offered at NISER, Bhubaneswar.

**Post-Graduate Medical Degree, M.D.** in various broad domains of oncology is offered at TMC and BARC.

**Super Specialty Medical Degree, D.M.** and **M.Ch.** in specialised domains of oncology are offered at TMC.

Post-graduate Diploma in Radiological Physics (**Dip.R.P.**) is offered at BARC.

Post-graduate Diploma in Fusion Imaging Technology (**PGDFIT**) is offered at TMC.

Diploma in Medical Radio Isotope Techniques (**DMRIT**) is offered at BARC.

The list of academic programs, the specialisations available, and the CIs/OCC offering these programs can be seen below.

**Table-1: HBNI Academic Programs offered at various CIs/OCC**

<b>Sr. No</b>	<b>Programme Name</b>	<b>CI/OCC</b>
1	PGD (Chemical Sciences)	BARC
		IGCAR
2	PGD (Engineering Sciences)	BARC
		IGCAR
		RRCAT
3	PGD (Life Sciences)	BARC
4	PGD (Physical Sciences)	BARC
		IGCAR
		RRCAT
5	M. Tech. (Various specialisation)	BARC
		IGCAR
		RRCAT
		IPR
6	M. Phil. (Chemical Sciences)	BARC
		IGCAR
7	M. Phil. (Physical Sciences)	BARC
		IGCAR
		RRCAT
8	M.Sc. (Engineering Sciences)	BARC
		IGCAR
		VECC
		IPR
9	Ph.D. (Applied Systems Analysis)	BARC

		IGCAR
		NISER
10	Ph.D. (Chemical Sciences)	BARC
		IGCAR
		NISER
11	Ph.D. (Engineering Sciences)	BARC
		IGCAR
		RRCAT
		VECC
		IPR
12	Ph.D. (Life Sciences)	BARC
		SINP
		TMC
		IMSc
		NISER
13	Ph.D. (Medical & Health Sciences)	TMC
		BARC
14	Ph.D. (Mathematical Sciences)	HRI
		IMSc
		NISER
15	Ph.D. (Physical Sciences)	BARC
		IGCAR
		RRCAT
		VECC
		SINP
		IPR
		IOP
		HRI
		IMSc
		NISER
16	Integrated Ph.D. (Double Degrees)	BARC

	- Engineering Sciences	IGCAR
17	Integrated Ph.D. (Double Degrees) - (Mathematical Sciences)	IMSc
18	Integrated Ph.D. (Double Degrees) - (Physical Sciences)	HRI
		IMSc
		NISER
19	DMRIT	BARC
20	M.Sc. (Physics)	HRI
21	M.D.  (various specialisations in oncology)	TMC
		BARC
22	D.M.  (Super-specialisations in oncology)	TMC
23	M.Ch.  (Super-specialisations in oncology)	TMC
24	Dip. R.P.	BARC
25	Integrated M.Sc. (Chemical Sciences)	NISER
26	Integrated M.Sc. (Life Sciences)	NISER
27	Integrated M.Sc. (Mathematical Sciences)	NISER
28	Integrated M.Sc. (Physical Sciences)	NISER
29	M.Sc. (Nursing)	TMC
30	PGDFIT	TMC
31	M.Sc. (Clinical Research)	TMC
32	Integrated Ph.D. (Single Degree) – Engineering Sciences	BARC
		IGCAR

**TABLE 2: Specialisations and Super-specialisations in Medical & Health Sciences and Specialisations in the Engineering Sciences**

S. No.	Programme Name	CIs/ OCC	Specializations & Super Specialisation
<b>Medical and Health Sciences</b>			
1.	M.D. (specialisation in Oncology)	TMC	(i) Anaesthesiology (ii) Immuno Haematology and Blood Transfusion (iii) Microbiology (iv) Nuclear Medicine (v) Palliative Medicine (vi) Pathology (vii) Radio diagnosis (viii) Radiotherapy (presently Radiation Oncology)
		BARC	(i) Nuclear Medicine
2.	D.M. (super-specialisation in Oncology)	TMC	(i) Critical Care Medicine (ii) Interventional Radiology (iii) Medical Oncology (iv) Onco Pathology (v) Paediatric Oncology
3.	M.Ch. (super-specialisation in Oncology)	TMC	(i) Gynaecological Oncology (ii) Head & Neck Surgery (iii) Plastic & Reconstructive Surgery (iv) Surgical Oncology
<b>Engineering Sciences</b>			
4.	M.Tech. (specializations in engineering and technology)	BARC	(i) Mechanical Engineering (ii) Metallurgical Engineering (iii) Chemical Engineering (iv) Computer Engineering (v) Civil Engineering (vi) Electronic Engineering (vii) Electrical Engineering (viii) Instrumentation (ix) Radiological Safety Engineering (x) Exploration Geosciences
		IGCAR	(i) Mechanical Engineering (ii) Chemical Engineering (iii) Electronics and Instrumentation Engineering

			(iv) Material Science
		RRCAT	(i) Engineering Physics
		IPR	(i) Fusion Science & Technology

**For details about an academic program, please see [Ordinance](#).**