

## Indian Knowledge System and Mental Health Applications

### Call for Applications (Odd Semester, August 2026)

**Programs Offered: M.Tech (by Research) | Ph.D. | M.Tech(R)+Ph.D. (Dual Degree)  
M.S. (R) & Ph.D. (Music & Musopathy)  
M.A. (Indian Knowledge System)  
M.A. (Music & Musopathy)**

IIT Mandi invites applications from bright and dedicated young scholars interested in joining the full-time or part-time research programs under the Indian Knowledge System and Mental Health Applications (IKSMHA) Centre, focusing on the intersection of Indian Knowledge Systems (IKS) and Mental Health Applications.

**IKSMHA Program Research Areas: M.Tech (by Research) | Ph.D. | M.Tech(R)+Ph.D. (Dual Degree)**

Discipline	Broad Research Area (not exhaustive)	Driving Research questions
Indian Knowledge System (M. Tech_R/PhD/Dual degree)	Integrative study of body, mind, and consciousness	- Laws of Semantics and Foundations of Psychology - What are the cognitive biomarkers of consciousness?
	Scientific characterization of the brain network with the intervention of Yoga and Meditation	- How do we measure and improve states of epistemic curiosity (or lack of cognitive inertia)? - What are the cognitive biomarkers of creativity and the effect of IKS interventions?
	Learning Mind-brain paradigm from Ayurveda	- What is the connection between consciousness and sleep states? - How to investigate dreams and the contents of dreams?
	Mind-brain paradigm in Bhagavata Samkhya	- How to evaluate the level of sleep and enhance sleep and dream quality? - How does physiological data relate to common yoga practices?
	Traditional Indian Medicine Research for Mental Well-being	- What are the relations between neural, physiological, and molecular signatures, and how are they affected by IKS-based interventions?
	Indian Performing Arts and Cognition	- Use of neurofeedback and biofeedback mechanisms to improve meditation and yoga practices
	Indian storytelling and applications	- How does one assess the importance of intention and goodness from the perspective of cognitive biomarkers?
	Traditional Indian Material Knowledge and Sustainable Innovation	- Could computer vision and VR applications improve yogasana practices?
	Reimagining Intellectual Property through Indian Knowledge Systems	- Could Mantra chanting and tDCS in Virtual Reality (VR) improve mental conditions? Can this improvement be predicted via machine learning methods?
Sanskrit & Cognitive Science (M.Tech_R / Ph.D. / Dual Degree)	Cognitive and Consciousness Studies through Sanskrit Texts, Hermeneutics, and Linguistic Analysis	- What is the relationship of Prakriti on the effectiveness of meditation therapies for psychological and lifestyle disorders? - Could machine learning predict a person's Prakriti? - Could Indian music and dance therapies help improve clinical cases of mental and lifestyle disorders?
Cognitive Science (M. Tech_R/PhD/Dual degree)	Cognitive Neuroscience	
	Cognitive Psychology	
	Cognitive Technology and Bio/Neurofeedback	
	Judgment and Decision Making	

	Mental Health	<ul style="list-style-type: none"> <li>-How do we personalize music and dance therapies (e.g., based on the Prakriti of the subject or other factors)?</li> <li>-How can IKS interventions aid in the cases of deaddiction?</li> <li>-How to develop translational technology based on IKS interventions for clinical and home-based setups?</li> <li>-Can integrating modern analytical tools with classical Rasashastra guidelines ensure consistent therapeutic efficacy while maintaining safety and sustainability?</li> </ul>
	Cultural Modulation of Colour Cognition	<ul style="list-style-type: none"> <li>-How do culturally embedded meanings of colours in Indian society influence cognitive processing of colour stimuli and associated emotional responses?</li> <li>-Can culturally informed colour cognition be leveraged to promote positive mental health outcomes in Indian contexts, such as therapy, education, or community design?</li> <li>-What are the models of cognition and consciousness in the Sanskrit Darśanas?</li> <li>-How do Sanskrit epistemological tools inform the study of the mind?</li> </ul>
Virtual Reality and Sensors (M. Tech_R/PhD/Dual degree)	Virtual Reality Applications	<ul style="list-style-type: none"> <li>-How can Sanskrit phonetics, grammar, and semantics contribute to modern cognitive science and AI?</li> </ul>
	Bio/Neuro/Physiological Sensing	<ul style="list-style-type: none"> <li>-Can Sanskrit mantras and poetic meters serve as tools for mental health enhancement?</li> <li>-How can Akṣar–Puruṣottama Darśana enrich interdisciplinary consciousness studies?</li> </ul>
Mental Health Applications (M.Tech_R/PhD/Dual degree)	Depression, Stress and cognitive loading, Sleep Disorder, Autism, Alzheimer's, Parkinson's	<ul style="list-style-type: none"> <li>-What are the biomarkers of mental health conditions?</li> <li>-Could interventions from the Indian knowledge system improve mental health conditions?</li> </ul>
Material Science from IKS Perspective (M.Tech_R/PhD/Dual degree)	<ul style="list-style-type: none"> <li>-Rasashastra and Herbo-Mineral Materials: Scientific Validation and Sustainable Innovation</li> <li>-Cultural and Heritage Materials: Natural Pigments, Dyes, and Traditional Textiles</li> <li>-Circular Material Practices in Indian Knowledge Systems</li> </ul>	<ul style="list-style-type: none"> <li>-How can Rasashastra's purification (<i>shodhana</i>) and incineration (<i>marana</i>) processes be understood using modern material characterization tools (XRD, SEM, FTIR, ICP-MS)?</li> <li>-What mechanisms reduce toxicity and enhance biocompatibility in traditionally prepared <i>bhasmas</i>?</li> <li>How can the principles of Rasashastra be adapted into green chemistry and sustainable nanomaterial synthesis frameworks?</li> <li>-What are the physicochemical and ecological properties of traditional Indian dyes and pigments?</li> <li>-How can traditional eco-friendly binders, resins, and mordants be reintroduced in conservation contexts to replace synthetic and toxic alternatives?</li> <li>-How can revived traditional pigments be used for the restoration of ancient Indian wall paintings, manuscripts, and temple murals?</li> <li>-What are the compatibility and longevity profiles of natural pigments when applied to restoration processes under current conservation standards?</li> <li>-How can the psychological and aesthetic value of traditional colour palettes contribute to cultural</li> </ul>

		wellbeing and identity preservation? -What conservation practices from traditional architecture, craft, and medicine demonstrate closed-loop, low-waste material cycles?
NeuroElectromagnetic Resonance and Consciousness Studies (M.Tech_R/PhD/Dual degree)	EEG and Dodecanogram (DDG) based brain measurements Human brain modelling and simulation Quantum properties of water and their role in biology & consciousness Electromagnetic (EM) resonance of biomaterials Signal processing in biological systems	How do EM resonances in proteins, membranes and brain tissues influence neural signalling and information processing? Can MHz, GHz-band EM resonance signatures of biomaterials be used as biomarkers for brain health and disease? How can advanced signal-processing methods (time-frequency, fractal) extract weak neural signals from the brain in EEG and DDG recordings? How can multi-scale human brain models (from neurons to whole-brain networks) be built that incorporate both electrical and EM resonance features? What are the quantum-level properties of water/, in and around biological systems, and how do they couple to neural EM fields? Development of an open "NeuroResonance Brain Database ( <a href="https://neuroresonance.co.in/">https://neuroresonance.co.in/</a> ) integrating EM resonance, EEG/DDG, and structural brain models for the neuroscience community.

#### General Information

Information on eligibility, minimum qualifications, and scholarship rules are briefly provided on the following links:

**M.Tech(R) Ordinance and Regulations (O&R) IIT Mandi:**

[https://www.iitmandi.ac.in/pdf/ordinances/Ordinances\\_MTech\(R\).pdf](https://www.iitmandi.ac.in/pdf/ordinances/Ordinances_MTech(R).pdf)

**Ph.D. Ordinance and Regulations (O&R) IIT Mandi:**

[https://www.iitmandi.ac.in/pdf/ordinances//Ordinances\\_Ph.D.pdf](https://www.iitmandi.ac.in/pdf/ordinances//Ordinances_Ph.D.pdf)

**M.Tech(R)+Ph.D.(Dual Degree) - Regular Ordinance and Regulations (O&R) IIT Mandi:**

[https://www.iitmandi.ac.in/pdf/ordinances/Ordinances\\_phd\\_mtech.pdf](https://www.iitmandi.ac.in/pdf/ordinances/Ordinances_phd_mtech.pdf)

#### For Masters applicants (Full-Time Research Scholars):

##### General eligibility criteria for M.Tech. (Research) Admission:

##### Qualifying Degree:

1. Bachelor's degree in Engineering/Technology/or equivalent with a valid GATE score, **OR**
2. Master's or equivalent degree in Science/Arts/Commerce/Management/(or allied subjects) with a valid GATE score, **OR**
3. Masters or equivalent degree in Engineering/Technology

##### Exemptions from mandatory requirements of Valid GATE or National Level examination:

1. B.Tech/B.E./B.S./(or equivalent) degree from CFTI (Centrally Funded Technical Institute)/ any of the top 100 institutes according to NIRF ranking (overall category) at the time of application/ any Himachal Pradesh Govt. institution or universities with CGPA/CPI of at least 7.5 (on a scale of 10) or equivalent.

2. BS-MS/M.Sc/MA/MBA/equivalent from IITs, IISERs, IISc, IIMs, or any of the top 100 institutes according to NIRF ranking (overall category) at the time of application with a CGPA/CPI of at least 7.5 (on a scale of 10) or equivalent.
3. NIRF Ranking (within the top 100) should be in the overall category granted for the year during which admission is sought.

**For Ph.D. applicants (Full-Time Research Scholars):**

**General eligibility criteria for Ph.D. Admission:**

**Qualifying Degree:**

1. Master's or equivalent degree in Engineering/Technology, OR
2. Bachelor's degree in Engineering/Technology or equivalent, OR
3. Master's or equivalent degree in Science/Arts/Commerce/Management (or allied subjects) \*

**\*For qualifying degree listed under (2) & (3) candidates must also fulfill ONE of the following additional requirements:**

1. Qualified GATE / NET including lectureship (Assistant Professorship) or any other equivalent National level examination.
2. Selected through a National level examination conducted by MoE or its agencies /Institutions such as UGC/ IIT/ IISc. / IISER/ IIIT etc.
3. Minimum of TWO years of professional experience (acquired after obtaining the qualifying degree and completed before the start of the semester in which admission is sought)

**\*Exemptions from mandatory requirements of valid GATE or National Level examination:**

1. B.Tech/B.E./B.S./(or equivalent) degree from CFTI (Centrally Funded Technical Institute)/ any of the top 100 institutes according to NIRF ranking (overall category) at the time of application/ any Himachal Pradesh Govt. institution or universities with CGPA/CPI of at least 7.5 (on a scale of 10) or equivalent
2. BS-MS/M.Sc/MA/MBA/equivalent from IITs, IISERs, IISc, IIMs or any of the top 100 institutes according to NIRF ranking (overall category) at the time of application with a CGPA/CPI of at least 7.5 (on a scale of 10) or equivalent.
3. NIRF Ranking (within the top 100) should be in the overall category granted for the year during which admission is sought.

**For M.Tech(R)+Ph.D.(Dual Degree) - Regular applicants (Full-Time Research Scholars):**

Students under this category are entitled to the Scholarship/ Assistantship from Institute / MoE if they qualify for any one of the following criteria.

- The candidate must possess BE/B.Tech/BNYS/BAMS or M.Sc. (or equivalent Degree) with a valid GATE Score for HTRA fellowship.
- B.Tech./B.E. (or equivalent) from CFTI institute with CGPA  $\geq 7.5$  on a 10.0-point scale (or equivalent), National level examination (GATE/NET) is waived off for HTRA fellowship.

Full details of the programme are available {As per 37th Senate Item No. 37.16} at <https://cloud.iitmandi.ac.in/f/cbc9eb261d8b472d9b25/>

**IKSMHA Program Research Areas: M.S. & Ph.D. (Music & Musopathy)**

Discipline	Broad Research Area (not exhaustive)	Driving Research questions
Music and Musopathy (M.S. (R)/PhD)	<p>Indian Music and Wellbeing</p> <ul style="list-style-type: none"> <li>- Indian Music and its uniqueness from other music genres, acoustical analysis, emotion response, physiological response, and neuro-cognitive attributes of Indian ragas and their constructs</li> <li>- Exploring quantum-like ambiguity, interference effects and coherence in music-induced emotions and their neural correlates</li> <li>- Exploring the holistic effect of <i>raga-yoga</i> combined interventions on the mind, body and brain</li> </ul>	<ul style="list-style-type: none"> <li>- What are the musical features that make Indian Music unique in the map of World music? How do they differ acoustically from other genres?</li> <li>- What are the emotions/moods primarily evoked through Indian <i>raga</i> music? How do they differ from Western music?</li> <li>- What are the effects of listening to Indian <i>ragas</i> and <i>raga</i>-based music on physiological parameters like HRV, Breath rate, and GSR?</li> <li>- What are the neural correlates of Indian <i>ragas</i> and their unique elements? (Study using EEG, fNIRS)</li> <li>- What effect will it have on our mind, brain and body if two IKS interventions like Indian <i>raga</i> and Yoga are combined together?</li> <li>- Can we observe quantum-like ambiguity, interference and coherence effects in music-induced emotions and their neural correlates?</li> </ul>
	<p>Music therapy, technology, and healthcare for mental and lifestyle disorders, Musopathy—exploring the fundamental mechanics of music benefits in a culture-neutral context</p>	<p><b>Career Prospects:</b> Graduates will be well-positioned for roles in healthcare, the music industry, research, academia, and wellness organizations. Career opportunities include becoming Musopathists, research analysts, and music technology specialists.</p> <p><b>Course Overview:</b> The curriculum spans foundational to advanced levels, covering topics like <i>Music and Musopathy Foundation</i>, <i>Music and Cognition</i>, and <i>Introduction to Audio Engineering</i>. Research opportunities are available in addition to coursework, with supplementary courses from the IKSMHA Centre, NPTEL, and Swayam.</p> <p>For more details, please visit the following:  <a href="#">-IKSMHA Music and Musopathy Program Details</a>  <a href="#">-Course Booklet for MS by Research and PhD in Music and Musopathy</a></p>

### Eligibility Criteria for M.S. (Research) and Ph.D. in Music and Musopathy

Eligibility will be as per the norms outlined in the MS and Ph.D. admissions Ordinances. In this program, some traditional degrees from recognized universities like Acharya and others will be considered at par with bachelor's and master's degrees in engineering, sciences, arts, and social sciences. These may include appropriate degrees from accredited music institutions like Kalakshetra, Chennai; Gandharva Maha Vidyalaya Delhi; Chennai Govt Music College, etc., after 3-years of Music Education. The committee may impose additional requirements for eligibility as needed from time to time. For example, the committee can consider weight to Acharyanet and other certifications after 2/3 years of study and All India Radio ratings for performing artists. Students will be enrolled in full-time, part-time, and ERP categories per norms detailed by the Senate IIT Mandi

### Additional Criteria (in addition to the existing ordinances):

#### 1) M.S. (Research) in Music and Musopathy

- Bachelor's degree as per IIT Mandi ordinances

- All India Radio (AIR) grading of B or higher

## 2) Ph.D. in Music and Musopathy

- Bachelor's degree as per IIT Mandi ordinances
- Master's degree or equivalent qualification in music

Equivalent qualifications may include:

- All India Radio (AIR) grading of B or higher OR
- Alankar or similar level certifications from recognized boards such as:
  - Akhil Bharatiya Gandharva Mahavidyalaya Mandal
  - Prayag Sangeet Samiti
  - Pracheen Kala Kendra
  - State Music Academies
  - Kalakshetra (Level 5)
  - Acharyanet (equivalent level)

(All such qualifications may be evaluated by expert faculty in Music.)

## 3) Additional Requirement for Part-Time Candidates

Minimum two years of relevant experience, supported by one or more of the following:

- Certification from established music institutions (e.g., Music Academy Madras, Swati Thirunal College of Music, Cleveland Tyagaraja Aradhana, Indian Fine Arts Academy, etc.)
- Recommendation letter from recognized music professionals or teachers
- AIR/Doordarshan grading
- Certification from recognized bodies such as Sangeet Natak Akademi, Kalakshetra, or Gandharva Mahavidyalaya
- Self-attested declaration of experience as a performing artist

## IKSMHA Program Research Areas: M.A. (Indian Knowledge System)

Discipline	Broad Research Area (not exhaustive)	Driving Research questions
M.A. in Indian Knowledge System	Study in this field encompasses a wide range of topics including Vedic literature, Sanskrit studies, ancient Indian sciences (such as Ayurveda, Yoga, and Mathematics), metaphysical philosophies, and the socio-cultural impact of knowledge in historical and contemporary contexts.	<ul style="list-style-type: none"><li>-How do ancient Indian philosophies and texts contribute to modern-day discourse on ethics, science, and spirituality?</li><li>-In what ways can traditional knowledge systems inform current educational frameworks and societal structures?</li><li>-How can the preservation, reinterpretation, and dissemination of Indian Knowledge Systems be adapted to contemporary challenges?</li><li>-What are the methodologies for studying the textual and non-textual knowledge forms within Indian traditions?</li><li>-Graduate Program Course Booklet - <a href="#">Master of Arts in Indian Knowledge System</a></li></ul>

## General Information

Information on eligibility, minimum qualifications, and scholarship rules are briefly provided on the following link:

**M.A. - Regular Ordinance and Regulations (O&R) IIT Mandi:**

<https://iitmandi.ac.in/pdf/ordinances/MA%20Ordinance%20and%20Regulations.pdf>

**General Eligibility Criteria For M.A. Admission In Indian Knowledge System:**

Eligibility Candidates should hold a minimum 3-year Bachelor's Degree, having secured a minimum of 55% marks or a CGPA of 5.5, with appropriate relaxation for those from certain categories as per Government of India norms. The admission process is holistic, involving both an aptitude test to gauge the foundational understanding and affinity towards the subjects, followed by an interview to assess the aspirants' motivation and fitment into the program. The MA degree program would be of 2-year duration. Students may be able to exit with a PG diploma in the Indian Knowledge System after 1 year of study.

**IKSMHA Program Research Areas: M.A. (Music & Musopathy)**

Discipline	Broad Research Area (not exhaustive)	Driving Research questions
M.A. in Music and Musopathy	Study in this field encompasses a wide range of areas including Indian classical and folk music traditions, musicology, music cognition, therapeutic applications of sound, psychology of music, and the role of music in healing and well-being across cultural and contemporary contexts.	<ul style="list-style-type: none"><li>- Impact of music on mental, emotional, and physical health</li><li>- Application of traditional and classical music in modern healing</li><li>- Integration of music therapy in healthcare, education, and communities</li><li>- Methodologies for studying music and its therapeutic practices</li><li>- Graduate Program Course Booklet – <a href="#">Master of Arts in Music and Musopathy</a></li></ul>

**General Eligibility Criteria For M.A. Admission In Music and Musopathy:**

Candidates should hold a minimum three-year Bachelor's degree or equivalent programs Music. having secured a minimum of 55% marks or a CGPA of 5.5, with appropriate relaxation for those from certain categories as per Government of India norms. The admission process will be holistic, consisting of a test and/or interview. The personal interview would evaluate the candidate's motivation, experience, and suitability for the program. The MA in Music and Musopathy will be of two years' duration.

Link to the online application: <https://iitmandiadm.samarth.edu.in/admission/index.php>

**Note:** Industrial or Academic Institute Sponsored or Part-time M.Tech (R), M.S. (R), Ph.D., and M.Tech(R)+Ph.D.(Dual Degree) - program candidates are not eligible for MHRD/HTRA scholarships.

Employed candidates seeking admission to M.S.(R)/M.Tech(R)/PhD must submit a 'No Objection Certificate' from their current employer while filling out the application form.

**NOC Format Link:** <https://drive.google.com/drive/folders/1pXx4Gx158W6iYsD4jzPw8pLT7klh4oxu?usp=sharing>

For any other queries regarding M.A.(Music & Musopathy)/M.A. (IKS)/M.Tech (R)/M.S.(R)/Ph.D/M.Tech(R)+Ph.D.(Dual Degree) programs in IKSMHA, please contact the IKSMHA office through email: [iksmha-office@iitmandi.ac.in](mailto:iksmha-office@iitmandi.ac.in). We look forward to



reviewing your application.

For any technical problems regarding filling out online applications, please contact [it\\_helpdesk@iitmandi.ac.in](mailto:it_helpdesk@iitmandi.ac.in)

**Application Fee for M. Tech (by research)/Ph.D. Admission:**

Category	Amount in ₹
General/EWS/OBC/OBC (NCL)/Transgender/Foreign Nationals	200
Women/SC/ST/PD	100

**Mode of Payment:** Online within the application form

**Start Date:** 30 April 2026 (Thursday, 04:30 PM)

**Deadline:** 15 May 2026 (Friday, 5:00 PM)

**Note:**

Screening will be based on the candidate's submitted online application form. Following the screening, interviews (offline or online) will be scheduled for shortlisted candidates.

**Interview (tentative):** 15 June 2026 (Monday)

**Note: IIT Mandi reserves the right to recruit/ not recruit for any of the advertised areas and apply appropriate criteria for shortlisting candidates.**