SHARDA UNIVERSITY
Beyond Boundaries

Procedure for Introduction of a New Certificate/Diploma/Degree/Doctorate Programme

Various Schools/Departments from Sharda University, Greater Noida Campus are invited to submit proposals for new Certificate/Diploma/Degree/Doctorate programmes that can be initiated under the support of Office of Dean Academic Affairs. Normally a proposal may be mooted by Dean/HoD and it will be submitted in hard copy through the concerned Dean with his/her comments **on or before 10 months from the starting of a new academic session.**

Format for submission of a Proposal

S.No.	Particular	Response
1.	**Name(s) of Proposer(s) together with details of associated Department/Centre/ School:**	Dr. Nirupma Gupta Dean Sharda School of Medical Sciences & Research
2.	**Nature of Programme:** specify if the proposal is for a Degree (UG/PG) or Dual degree programme or Doctorate Programme or Diploma (UG/PG) or Certificate Programme:	PG
3.	**Name of the proposed Programme:**	Master of Science in Clinical Neurophysiology
4.	**Proposed number of seats:**	5
5.	**Proposed Duration of the Programme:**	2 Years
6.	**Is the proposed Programme Council based or Non-Council based (UGC Norms) or both:**	Non-Council
7.	**Does the Proposed Programme require any prior approval from the respective Council (Specify Yes/No if Yes, please give the details of Council):**	No
8.	**In which School it is proposed to be introduced:**	Sharda School of Medical Sciences & Research, Greater Noida
9.	**Relevance and Need Assessment:** Provide a statement (300 approx. words) on the need for the proposed programme and how would it be useful for students in respect of their academic pursuit and employability. Also bring out the possibility of international academic collaborations with reputed foreign universities, encompassing student, faculty exchange, dual degree or joint degree and credit transfer between universities.	**Background and Rationale for starting the course** The proposed M.Sc. Clinical Neurophysiology program addresses the shortage of trained neurophysiology technologists in the country. The Clinical Neurophysiology will serve as a bridge between basic neurosciences , Physiology of the human brain and clinical neurology

Dr Amit fa Records & copy to respective department

Dean Academic Affairs
Sharda University, Greater Noida
(U.P.) 201310

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Epidemiological need in the country

With the high burden of neurological morbidity in India and in the recent years, there has been an enormous increased incidence of stroke in the younger population. In addition, a very high incidence of Diabetes in India leads to diabetic neuropathies. All these neurological morbidities require accurate diagnosis and although advanced neurodiagnostic facilities which exist in tertiary care centres, but these facilities are underutilized because of lack of skilled manpower. The clinicians are overloaded leading to delayed diagnosis and under utilization of equipment. The prognosis of such patients also naturally worsen.

Academic and Institutional Need

A medical college with such a large infrastructure of 250 MBBS students, almost 150 MD students and state of art equipment for advanced Neurology treatment definitely requires trained Neurophysiology technologists who will strengthen the academic continuum and provide hands on support to the MD students. There is a gap identified in which there is a lack of specialized postgraduate programme in neurodiagnostics. The 3 year MSc Clinical Neurophysiology will serve to meet a multidisciplinary, skill based degree.

Employment opportunities

There are plenty of Employment opportunities in Research organizations , Medical Device companies , Sleep Labs , Neurology clinics conducting EEG , Evoked Potentials , EMG , NCV etc in roles like Neurophysiology Technologist , Research assistant , Clinical trial coordinator etc.

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10.	**Names of faculty members who would be responsible for the proposed new Programme:** (For a new degree/diploma programme generally at least five faculty members should be identified and their formal consent be obtained)	Prof. Dr. Supriya Gupta HOD Department of Physiology Prof. Dr Shobitha Muthukrishnan Prof. Dr Kiranmayi Vasapalli Prof. Dr Shalini Rastogi Dr. Priyanka Sharma, Associate Professor
11.	**How would the new programme enhance academic excellence at Sharda University:** (state in ~300 words):	Master of Science in Clinical Neurophysiology - Department of Physiology
12.	**How is the proposed programme distinct from the existing academic programmes:** (200 words)	
13.	**Budget requirements (Separate annexure must be enclosed for each points):**	Nil
i.	**Staff:** (The program should start with existing academic and support staff. Any future requirements may be listed, giving timeline and justification. (Vetting by HR):	Nil
ii.	**Fee structure:** (the new programme should be largely self-supporting, without compromising its academic quality; provision for fellowships for meritorious/economically weaker sections should be captured in the proposal. The proposal should also include proposed fee structure for five years, and the expected target group of the prospective students duly considered by the Admission Committee and Finance department.	Nil
iii.	**Essential non-recurring and recurring costs required:** (List such requirements together with justification and timeline.	Nil
iv.	**Honorarium for Guest Faculty:** (Specify if guest faculty (from within Sharda University or outside) would be essential for the programme and if any honorarium would be payable. Provide a tentative estimate and expenditure on this account from respective School Dean)	Nil

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14.	**Space:** The program should be initiated in the existing space available within the school/department/centre. If no, Additional building space may be requested from estate department. **In case of future requirement, demand on Estate Department may be realistically projected**	Existing space available

Name & Signature of the HoD/Dean:

Date: 4/5/26

School of Medical Sciences & Research
Dean
Sharda University, Greater Noida

Dean (Academic Affairs)

Dean Academic Affairs
Sharda University, Greater Noida
(U.P.) 201310

05/05/26

Vice-Chancellor

Vice Chancellor
Sharda University
Plot No. 32,34 Knowledge Park-III
Greater Noida - 201310 (U.P.)

SHARDA UNIVERSITY
Beyond Boundaries

NAAC A+ Accredited

SAMPLE

Programme Structure

Sharda School of Medical Sciences & Research

Department of Physiology

MSc Clinical Neurophysiology

Sharda School of Medical Sciences & Research
Department of Physiology
MSc Clinical Neurophysiology (2-Year Programme)
Batch: 2026–2028

1.1 Vision, Mission and Core Values of the University

Vision of the University

To serve the society by being a global University of higher learning in pursuit of academic excellence, innovation and nurturing entrepreneurship.

Mission of the University

Transformative educational experience

1. **Enrichment by educational initiatives that encourage global outlook**
2. **Research Development**
3. **Disruptive innovation**
4. **Enterpreneurship and Seeking beyond boundaries**

Core Values

- **Integrity**
- **Leadership**
- **Diversity**
- **Community**

1.2 Vision and Mission of Sharda School of Humanities & Social Sciences

Vision of the School

To serve the society by being a premier institute that promotes a comprehensive approach to human health through excellence in academics, research and clinical care

Mission of the School

- Provide a transformative educational experience in Medical Science
- Develop skills and competencies to create global leaders in clinical care
- Promote innovative and collaborative research through intellectual and technological advancement
- Establish a center for excellence in preventive, promotive and curative

Core Values

- **Integrity**
- **Leadership**
- **Diversity**
- **Community**

1.3 Programme Educational Objectives (PEO)

1.3.1 Programme Educational Objectives (PEO)

PEO1: Domain Expertise Students will demonstrate advanced knowledge & technical proficiency in clinical neurophysiology (EEG , EMG , NCV , Evoked Potentials) for accurate diagnosis & clinical support .

PEO2: Clinical competence & Patient care Apply neurophysiological principles in patient centred clinical settingswith ethical and evidence based practices .

PEO3: Research & Innovation Engage in interdisciplinary and translational research contributing to advancements in neurosciences & neurodiagnostic technologies

PEO4: Lifelong learning & Global Outlook Pursue continous professional development , adapt to emerging technologies, and engage in global best practices

1.3.2 Mapping of PEOs with Mission Statements

PEO Statements	School Mission 1	School Mission 2	School Mission 3	School Mission 4
PEO1:	☑			
PEO2:	☑			
PEO3:		☑	☑	☑
PEO4:			☑	

1.3.3 Programme Outcomes

PO1 : Apply advanced knowledge of neuroanatomy , neurophysiology and neuropathophysiology in clinical settings

PO2 :Perform and interpret EEG , EMG , NCV , Evoked Potentials and Polysomnography

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PO3 :Correlate clinical findings with electrophysiological data for diagnosis

PO4 :Design and conduct research studies in clinical neurophysiology

PO5 :Analyze biomedical signals using statistical and computational tools

PO6 :Critical appraisal of scientific literature and apply evidence based practice

PO7 :Demonstrate ethical practice , patient safety and confidentiality

PO8 :Communicate effectively with clinicians , patients and multidisciplinary teams

PO9 :Utilize emerging technologies like AI , machine learning & neuroinformatics in diagnostics

PO10 :Adapt to advancements in neurodiagnostic instrumentation & digital health

PO11 :Exhibit leadership & teamwork in clinical , academic , & research environment

PO12 :Engage in lifelong learning, continuing education & Professional development

Programme Specific Outcomes

PSO1 :Knowledge & Technical skills like EEG , EMG , NCV , Evoked Potentials & Correlation of clinical findings with technical skills

PSO2 :Analytical & Research skills like designing research studies , analyzing biomedical signals and critical appraisal of research literature

PSO3 :Ethics and Communication like demonstrating ethical practice & patient confidentiality and effective communication with clinicians and patients

PSO4 : Leadership , lifelong learning & Innovations like utilizing emerging technologies such as AI and exhibit leadership and teamwork as well as engaging in lifelong learning

1.3.4 Mapping of Programme Outcome Vs Programme Educational Objectives

	PEO1	PEO2	PEO3	PEO4
PO1	☑	☑		
PO2	☑	☑		
PO3	☑	☑		
PO4			☑	
PO5			☑	
PO6			☑	
PO7		☑		
PO8		☑		
PO9				☑
PO10				☑
PO11				☑
PO12				☑
PSO1				
PSO2				
PSO3				
PSO4				

SAMPLE

1.3.5 Programme Outcome vs Courses Mapping Table

Semester I

Course Code	Course Name	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PS O1	PS O2	PS O3	PS O4
	Basic Neuroanatomy & Neurophysiology	3	2	2			2	2					2	3		2	
	Clinical Neurology	3	3	3			2	3	2				2	3		3	
	Biophysics & Instrumentation	2	2		2	2				2	2			2	2		2

Course Code	Course Name	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2	PSO3	PSO4
	EEG Techniques I	3	3	3				2	2				2	3		2	
	Research Methodology	2			3	3	3	2					2		3	2	2

Semester II

Course Code	Course Name	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO1	PSO2	PSO3	PSO4
	Advanced Neurophysiology	3	2	2	2	2	2	2		2	2		2	3	2		2
	EEG Techniques II	3	3	3			2	2	2				2	3		2	
	EMG I	3	3	3				2	2				2	3		2	
	NCV I	3	3	3				2	2				2	3		2	
	Ethics & Communication	2	2				2	3	3			2	3	2		3	2
	Seminar & Journal Club	2	2	2	2	3	3	2	3			2	3	2	3	3	2

Semester III

Course Code	Course Name	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PS O1	PS O2	PS O3	PS O4
	AI in Neurophysiology	2	2	2	3	3	2			3	3		2	2	3		3
	Epilepsy Monitoring	3	3	3			2	2	2				2	3		2	
	Elective	2	2	2	2	2	2	2	2			2	2	2	2	2	2
	Dissertation Phase I				3	3	3	2	2			2	3		3	2	2
	Clinical Posting III	3	3	3			2	3	3			2	3	3		3	2

Semester IV

Course Code	Course Name	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PS O1	PS O2	PS O3	PS O4
	Dissertation Phase				3	3	3	2	2			2	3		3	2	2

Programme Structure (2 Years)

Year 1

Semester I & II

(Core Neurophysiology, EEG, EMG, NCV, Evoked Potentials, Neurology, Biostatistics)

Year 2

Semester III & IV

(Advanced Neurodiagnostics, Dissertation,)

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COURSE MODULES

COURSE MODULE 1

Course Name: Basic Neuroanatomy & Neurophysiology

Course Objectives

- Understand structure and function of nervous system
- Correlate anatomy with clinical neurophysiology
- Build foundation for diagnostics

Course Outcomes

CO1: Describe neuroanatomy
CO2: Explain neurophysiology
CO3: Correlate clinical findings
CO4: Apply knowledge
CO5: Interpret signals
CO6: Analyze neurological data

Course Description

Covers CNS, PNS, synaptic transmission, sensory and motor pathways.

Outline Syllabus

Unit 1: Neuroanatomy
Unit 2: Neurophysiology
Unit 3: Sensory system
Unit 4: Motor system
Unit 5: Higher functions

CO–PO Mapping Table

CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CO1	3	2											3			
CO2	3	3											3			
CO3	2	3	3										3			

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CO/PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
CO4	2	2	2										3			
CO5		2	3										3	2		
CO6			2	3	3									3		

COURSE MODULE 2

Course Name: EEG Techniques

Objectives

- Perform EEG
- Interpret EEG
- Identify abnormalities

COs

CO1–CO6 similar structure

CO–PO Mapping

(Use same matrix pattern with emphasis on PO2, PO3, PSO1)

COURSE MODULE 3

School		Sharda School of Medical Sciences & Research
Department		Medical sciences
Programme Code		
Programme Name		MSc Clinical Neurophysiology
Specialisation/ Minor		**PG**
Batch: 2026-2028		
1	Course Code	
2	Course Name	Basic Neuroanatomy & Neurophysiology

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3	Credits	Not Applicable (Medical Programme)	
4	Contact Hours (L-T-P)	3-1-0	
	Course Type	Core	
5	Course Objective	1. To understand the structural organization of the nervous system 2. To explain physiological mechanisms of neural activity 3. To correlate neuroanatomy with clinical applications 4. To develop foundation for neurodiagnostic procedures 5. To enhance analytical skills in neuroscience	
6	Course Outcomes	CO1: Describe the organization of CNS and PNS CO2: Explain membrane potential and synaptic transmission CO3: Correlate sensory and motor pathways with clinical conditions CO4: Apply neurophysiology in diagnostic interpretation CO5: Interpret basic electrophysiological signals CO6: Analyze neurological data for clinical relevance	
7	Course Description	This course provides fundamental knowledge of neuroanatomy and neurophysiology including neuronal structure, synaptic transmission, sensory and motor pathways, and higher brain functions. It serves as the foundation for clinical neurophysiology and neurodiagnostic techniques.	
8	Outline syllabus		CO Mapping
	Unit 1 Neuroanatomy	A. CNS & PNS organization – CO1 B. Neurons and glial cells – CO1 C. Functional areas of brain – CO1, CO2	
	Unit 2 Neurophysiology	A. Resting membrane potential – CO2 B. Action potential – CO2 C. Synaptic transmission – CO2	
	Unit 3 **Sensory System**	A. Pain pathways – CO3 B. Visual pathway – CO3 C. Auditory pathway – CO3	

SAMPLE

	Unit 4 Motor System	A. Reflexes – CO3 B. Motor pathways – CO3, CO4 C. Motor control – CO4			
	Unit 5 Higher Functions	A. Learning and memory – CO5 B. Cognition – CO5 C. Behavioral neurophysiology – CO6			
	Mode of Examination	Theory / Practical / Viva			
	Weightage Distribution	CA	MTE	ETE	
	Text book/s*	1. Guyton & Hall Textbook of Medical Physiology 2. Ganong's Review of Medical Physiology 3. Snell's Clinical Neuroanatomy			

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