

<b>LS 502A</b> <b>Neurophysiology</b> Name of the Faculty: Dr. S.K. Jha*			<b>2 Credits</b>
<b>S. No.</b>	<b>Topic</b>	<b>Faculty Name/ Contact Hours</b>	
1.	Neuron, glia, structure and function general; ionic distribution, transmembrane potential, membrane, lipids, myelination, channels, receptor, action potential generation, propagation, synapse, neurotransmitter release, axoplasmic transport	SKJ/8	
2.	Neurotransmitter synthesis and its regulation, receptor type, properties, second messengers	SKJ/2	
3.	Coding of information, sensation, adaptation, denervation hypersensitivity, sensitization;	SKJ/2	
4.	Reflex, properties, types: myotatic reflex, conditioned and unconditioned reflex, learning, motor control, and decerebrate rigidity, injury to the brain	SKJ/4	
5.	Development and evolution of the brain, organization of nervous system anatomy, cyto-architecture; brainstem, cerebrum, cerebellum, reticular formation, cortex; spinal cord, vertebral column, CSF, blood brain barrier; touch, pain, heat, itch, etc.	SKJ/6	
6.	Methods to study, sympathetic and parasympathetic nervous system, ascending and descending tracts	SKJ/3	
7.	Gross to cellular study stimulation. lesion, unit studies, anatomical, histological, biochemical, micro-dialysis, micro-iontophoresis, molecular studies, <i>in vivo</i> and <i>in vitro</i> cell culture studies	SKJ/2	

#### **Further Reading:**

1. Principles of Neural Science by Eric R. Kandel, James Harris Schwartz, Thomas M. Jessell
2. Fundamental Neuroscience by Larry R. Squire
3. The Central Nervous System: Structure and function by Per Brodal