

## Optional Course

### LS 569— NEURAL AND BEHAVIOURAL BIOLOGY

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S No	Topic	Name of the Faculty	Contact Hours
1.	<b>Vision:</b> Optics, anatomy, transduction of light to electrical energy, Neurophysiology of vision, accommodation, errors, of vision color vision, visual acuity, visual perception	SKJ	3
2.	<b>Hearing:</b> Anatomy, transduction of mechanical energy into electrical energy, and neurophysiology of hearing, Otoacoustic Emissions, The auditory nerve and its tonotopic organization, detection of binaural cues for sound location	SKJ	3
3.	Neural regulation of body temperature, cardiovascular function, respiration, Neuroendocrine regulation, basis of neuroimmune control, interleukin, etc	SKJ	5
4.	<b>States of consciousness:</b> Sleep-wakefulness behavior, identification, classification, of sleep-wakefulness, EEG, EOG, EMG. Neural and neurochemical regulation of sleep-wakefulness, Functions of sleep, Effects of sleep loss, Sleep-related disorders such as Narcolepsy	BNM	6
5.	<b>Cognition:</b> Learning and Memory, Emotion and attention	SKJ	4
6.	<b>Biorhythm:</b> Circadian clock and its molecular regulation	SKJ	1
7.	<b>Ageing and Neural diseases:</b> Factors affecting ageing, Depression, Schizophrenia, epilepsy, Parkinson's and Alzheimer;	DS	4

#### Suggested 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