

S.No.	Name of Books/ Author/Publisher
1.	Satyanarayana, U. "Biotechnology" Books & Allied (P) Ltd.
2.	Balasubramanian, D. et.al., "Concepts in Biotechnology" Universities Press Pvt.Ltd.
3.	Ratledge, Colin and Bjorn Kristiansen "Basic Biotechnology" 2 nd Edition Cambridge University Press.
4.	Dubey, R.C. "A Textbook of Biotechnology" S.Chand & Co. Ltd.
5.	Kumar, H.D. "A Textbook on Biotechnology" 2 nd Edition. Affiliated East West Press Pvt. Ltd.

Concepts in Neurobiology

Details of course:-

Course Title	Course Structure			Pre-Requisite
	L	T	P	
Concepts in Neurobiology (BT328)	3	1	0	NIL

Course Objective:

To impart understanding of neuroscience

Course Outcome (CO):

1. Explain the working of the nervous system, its membrane and action potential while also learning its development and neurogenesis.
2. Distinguish the nervous system into central and peripheral nervous system.
3. Define the movement, memory and learning of the neural control system.
4. Discuss various network of neuroendocrine –immune system and homeostasis.
5. Outline new approaches which can be used in neuroscience.

S.No.	Content	Contact Hours
1	Introduction to neuroscience Introduction to Nervous system-Neurons and glia-Membrane potential - Action potential -Development of nervous system-Neurogenesis	8
2	Neurochemicals and sensory nervous system Divisions of the nervous system—Central and peripheral nervous systems, Neurotransmitters-Amino acids-Neuropeptides—Sensation and perception, Vision-Hearing and equilibrium-Taste and Smell-Body senses	8
3	Neural control of movement, memory, and learning Movement—Anatomy and physiology of the neuromuscular junction—Nervous system control of movement—Basal Ganglia—Cerebellum—Motor neurons—Spinal reflexes-Learning and Memory	9
4	Neuroendocrine-immune network and homeostasis Emotions and reward systems—Neuroanatomy of emotions—Reward mechanisms—Neuroendocrine and Immune network—Hypothalamus and endocrine system	8
5	Neurodegenerative diseases Sleep and wakefulness—Arousal and wakefulness—Types and stages of sleep—Sleep and memory—Diseases of injuries of the nervous system—Neuromuscular disorders-Basal ganglia disorders—Spinal cord injury—Traumatic brain injury—Stroke—Dementia	9
TOTAL		42

Books:-

S.No.	Name of Books/ Author/Publisher
1	Handbook of Neurology Minoru Oishi