CENTRE FOR DISTANCE AND ONLINE EDUCATION
SRI SRI UNIVERSITY, CUTTACK

MASTER OF ARTS (YOGA)

TUTOR MARKED ASSIGNMENT

Course Code: MSY-SCT-202 **Academic Year: 2025-26**

Course Name: Physiological Effects of Yoga Practices **Session: February 2025**

Semester: 2nd **Total Marks: 100**

A. Answer any eight questions (essay type). Answer in about 350-500 words each.
(10 X 8 = 80)

1. **Explain the concept of homeostasis and discuss how yogic practices−especially asanas− support the body in maintaining and restoring internal balance. Illustrate your answer with examples of mechanical, humoral, and psychosomatic mechanisms involved.**

2. **Describe the physiological basis of mind−body medicine and critically analyze how stre tching, strengthening, pivoting, inverted, pressing, and balancing asanas influence diffe rent regulatory systems of the body. Use appropriate physiological mechanisms to sup port your explanation.**

3. **Discuss the physiology of exercise in relation to yoga. Compare the musculoskeletal an d neuromuscular responses seen in traditional exercise with those elicited by various ca tegories of asanas. Explain reciprocal inhibition and innervation in this context.**

4. **Explain the mechanism of respiration and gas exchange in detail. Evaluate how pranay ama modifies breathing mechanics, respiratory muscle participation, and lung functio n parameters such as vital capacity, lung volumes, compliance, ventilation−perfusion r atio, and minute ventilation.**

5. **Analyze the psychophysiological impact of pranayama on the autonomic nervous syste m. Discuss how ratio manipulation, kumbhaka (antar, bahir, kevala), and controlled v entilation influence sympathetic−parasympathetic balance and overall systemic functio n.**

6. **Describe the physiological basis of kriyas using principles from diffusion, osmosis, acti ve transport, and tonicity. Explain why salt and specific solution types are used in kriy a practices and analyze their implications on gastric mucosa, digestive processes, sphin cter control, and vagal activation.**

7. **Discuss the mechanisms through which kriyas stimulate peristalsis, regulate sphincter activity, create negative pressure, and influence digestive and autonomic functions. Su pport your answer with examples such as Neti, Dhauti, Basti, and Nauli.**

8. **Explain the biomechanical and neurophysiological principles underlying bandhas. Disc uss co-activation of antagonistic muscles, isometric activation, joint complex involveme nt, and how Jalandhara, Uddiyana, and Moola Bandha influence different regions of t he spine and physiological functions.**

9. **Describe the neurophysiology of mudras, including resting membrane potential, action potential, nerve impulse transmission, and neurotransmitter secretion. Evaluate how n euro-psychological locks influence body physiology and regulatory mechanisms.**

10. "Mudras and Bandhas act as advanced neuromuscular and neuropsychological regulators." Examine this statement with reference to PNF principles, synergistic muscle activation, Navadvara relevance, and the broader impact on endocrine, autonomic, and functional physiological balance.

B. Write short notes on any four. Answer in about 150-200 words each.

(5 X 4 = 20)

1. **What are the key characteristics of physiological control systems, and how do asanas he lp the body fine-tune these systems?**

2. **Briefly explain how pranayama acts as a respiratory pump and enhances oxygen–carbo n dioxide regulation in the body.**

3. **What is the role of compliance, alveolar ventilation, and dead space volume during pra nayama practice?**

4. **How do principles of tonicity (hypotonic, isotonic, hypertonic solutions) influence the sa fety and effectiveness of kriyas such as Jal Neti?**

5. **What is proprioceptive neuromuscular facilitation (PNF), and how does it relate to the action of bandhas and antagonist muscle co-activation?**

6. What is the physiological significance of the Navadvara in yoga, and how do mudras help regulate internal functions?