Karuna Yoga Vidya Peetham

Bangalore, India

Student Daily Assessment Sheet

Paper - 3 Yoga, Anatomy and Physiology

3. Yoga, Anatomy and Physiology	Understanding Concept	Application of Concept	Assignment	Test	Suggestion
Yoga, Anatomy and Physiology					
Chapter - 1					
1. Introduction					
1.0. Need Anatomy and Physiology in Yoga					
1.1. Anatomy					
1.2. Physiology					
1.2.1. Anatomy					
1.2.2. Physiology					
1.3. Anatomical Terminology					
1.4. Directional terms					
1.5. Movement Definitions					
1.5.1. The six basic movements of the body place in three planes.					
i) Coronal plane:					

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ii) Sagittal plane					
iii) Transverse plane					
1.6. Body Cavities					
i) Thoracic cavity					
ii) Abdominal and pelvic cavity					
iii) Dorsal cavity					
1. 7. Chemical to Organism level					
1.8. Different Systems of the Body					
Chapter - 2					
2. Respiratory system:					
2.1. Gaseous Exchange:					
2.2. Respiratory System					
a) Larynx:					
b) Trachea (wind pipe)					
c) Bronchi					
d) Bronchioles					

3. Yoga, Anatomy and Physiology	Understanding Concept	Application of Concept	Assignment	Test	Suggestion
e) Alveoli (Air sacs)					
2.3. Lungs					
2.4. Pleura					
a. External Anatomy					
2.5. Bronchi					
2. 6. Pulmonary Ventilation:					
2.7. Respiration Mechanism					
Normal breathing involves several different mechanisms.					
a) Shallow breathing					
b) Deep Breathing					
c) Unconscious control of breathing					
d) Conscious control of breathing					
2.8. Lung Volume					
Total air volume					
Tidal volume					
Vital capacity					

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Chapter - 3					
3. Muscular System and Yoga					
3.1. Characteristics of Skeletal Muscles					
3.1.1. Functions of Muscles:					
3.1.2. Muscular tissues can be classified					
1. Smooth, non-striated or involuntary muscles.					
2. Cardiac muscle or myocardium.					
3. Skeletal, striated or voluntary muscles.					
3.2. Gross Anatomy of Skeletal Muscles					
Chapter - 4					
4. 1. Aerobic and Anaerobic Exercise					
4.1.1. Aerobic (with oxygen) and Anaerobic (without oxygen) Exercise					
a. Aerobic exercise:					
i. Using More Fat for Energy					
ii. More, Bigger Blood Vessels					
iii. Changing the Composition of Muscle Fibers					

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iv. More Mitochondria, More Myoglobin					
v. Benefits					
b. Anaerobic Exercise:					
i. More Fast Twitch Muscle Fibers for Strength					
ii. Better Lactic Acid Tolerance for Endurance					
iii. Increased Glycolysis, ATP, CP, and Creatine					
iv. Increased Growth Hormone and Testosterone					
v. Takeaways					
Conclusion					
Chapter - 4					
4.2. Types of Muscle Contractions					
i) Isometric Contraction					
ii) Isotonic Contraction					
a) Concentric Contraction					
b) Eccentric Contraction					
Chapter - 4					

3. Yoga, Anatomy and Physiology	Understanding Concept	Application of Concept	Assignment	Test	Suggestion
4.3. Stretching					
i. Stretching					
ii. Definition and goal of stretching					
iii. What happens in a stretch?					
iv. When should you stretch?					
v. Warming up					
vi. Cooling down					
vii. Diet and stretching					
viii. Cold and heat therapy					
ix. Endorphin theory					
x. he gate theory of pain					
xi. Six rules to stretching					
Chapter - 4					
4.4. Types of Stretching					
1. Ballistic Stretching					
2. Dynamic Stretching					

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3. Passive Stretching					
5. Static Stretching					
a). Isometric Stretching					
b). PNF Stretching					
Chapter - 4					
4.4. Muscle fiber types					
1. Slow twitch muscle fibre (type -1)					
i) Aerobic exercise					
2. Fast twitch muscle fibre (type -2)					
i) Anaerobic exercise					
Chapter - 5					
5. Kinesiology					
5.1. Biomechanics and Kinesiology					
5.2. Body Movements					
5.3. Body Movements and Their Descriptions:					
1. Flexion					

3. Yoga, Anatomy and Physiology	Understanding Concept	Application of Concept	Assignment	Test	Suggestion
2. Extension					
3. Abduction					
4. Adduction					
5. Supination					
6. Pronation					
7. Lateral flexion					
8. Rotation					
9. Medial rotation (internal rotation)					
10. Lateral rotation (external rotation)					
11. Elevation					
12. Depression					
13. Dorsiflexion					
14. Plantar flexion					
15. Eversion					
16. Inversion					
17. Protraction					

3. Yoga, Anatomy and Physiology	Understanding Concept	Application of Concept	Assignment	Test	Suggestion
18. Retraction					
19. Circumduction					
Chapter – 5					
5.1. Asana and Kinesiology					
Chapter – 5					
5.2. Asana Kinematics					
1. Tadasana or Samasthiti/Mountain Pose					
2. Vrkshasana /Tree Pose					
3. Utthita Trikonasana/Extended Triangle					
4. Virabhadrasana I/Warrior I					
5. Paschimottanasana/Seated Forward Bend, or Intense West-Side Stretch					
6. Paripurna Navasana/Full Boat Pose					
7. Padmasana/Lotus Pose					
8. Purvottanasana/Reverse Plank, or Intense East-Side Stretch					
9. Dhanurasana/Bow Pose					
10. Urdhva Dhanurasana/Upward Bow Pose					

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Urdhva Dhanurasana (Lifting Up From a Supine Position)					
11. Ushtrasana/Camel Pose					
12. Matsyasana/Fish Pose					
13. Salamba Sarvangasana/Supported Shoulder stand					
Chapter – 6					
1. Biomechanics of Stretching					
1.2. Joint Mobility and Stability - The Biomechanical Yin Yang					
1.3. What is Stretching?					
1.4. Moving Origins and Insertions					
1.5. Physiology of Stretching					
1.6. The Spinal Cord Reflexes					
1.7. Methods of Stretching Muscles					
1.8. Stretching and Endorphins					
1.9. The Muscle Spindle Stretch Receptor					
1.10. The muscle spindle in Uttanasana					
1.11. Reciprocal Inhibition					

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1.12. The Biomechanical Yin Yang					
1.13. Reciprocal Inhibition - A Physiological Yin Yang					
1.14. Golgi Tendon Organ					
1.15. Hints and cautions:					
1.16. The Golgi Tendon Organ and Facilitated Stretching					
1.17. Combining Biomechanics and Physiology in Stretching					
1.18. Muscles					
a. Origin					
b. Insertion					
c. Agonist or prime mover					
d. Antagonist					
e. Synergist					
Chapter - 7					
1. Skeletal System					
a. Skeleton					
b. Skeletal muscle					
c. Joint					

3. Yoga, Anatomy and Physiology	Understanding Concept	Application of Concept	Assignment	Test	Suggestion
i) Cartilage					
ii) Tendon					
iii) Ligament					
iv)Fascia					
v)Bursa					
1.1. Types of bone and cartilage					
1.2. Functions of the Skeletal System?					
1.3. The main bones of the human skeleton are:					
1. The axial skeleton					
2. The appendicular skeleton					
1.4. Classification of Bones according to shape:					
1. Long bones					
2. Short bones					
3. Flat bones					
4. Irregular bones					
5. Sesamoid bones					
1. 5. Skeleton Joints:					

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i) Fibrous joints					
ii) Cartilaginous joints					
iii) Synovial joint					
1. 6. Synovial joints					
1.7. Synovial joints classifications					
1. Hinge					
2. Ball and socket					
3. Pivot					
4. Gliding					
5. Saddle					
6. Planar					
Chapter - 8					
1.1. Spinal Cord and Yoga					
1.1.1. Elements Of linkage between the vertebrae					
1.1.2. Discs and ligaments					
1.1.3. Weight Bearing Activities					

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1.1.4. Push & Counter push					
1.1. 5. Types Of spinal movement					
1.1.6. Axial Rotation					
1.1.7. Cervical Lateral Flexion					
1.1.8. Flexion and extension					
Primary and secondary Curves					
1.1.9. Spatial versus spinal perspectives					
1.1.10. lateral and twisting movements					
1.11. Axial extension, Bandha, and Mahamudra					
1.2.1. Intrinsic equilibrium: the spine, rib cage, and pelvis					
Chapter - 9					
1. Nervous System					
Peripheral nervous system					
i. Somatic Nervous system (SNS)					
2. Autonomic Nervous system (ANS)					
Central Nervous System					

3. Yoga, Anatomy and Physiology	Understanding Concept	Application of Concept	Assignment	Test	Suggestion
i. The Brain					
ii. The Spinal cord					
iii. Brain					
1. Forebrain					
2. Midbrain					
3. Hindbrain					
3. Parts of the Brain and functions					
i. Amygdala					
ii. Brain Stem					
iii. Cerebrum					
iv. Cerebellum					
v. The Frontal Lobe					
vi. The Temporal Lobe					
vii. The Parietal Lobe					
viii. The Occipital Lobe					
ix. Hippocampus					

3. Yoga, Anatomy and Physiology	Understanding Concept	Application of Concept	Assignment	Test	Suggestion
x. Hypothalamus					
xi. Thalamus					
4. Spinal Cord:					
4.1. Functions					
5. Peripheral Nervous System:					
6. Somatic Nervous System:					
1. Sensory neurons (or afferent neurons:					
2. Motor neurons (or efferent neurons)					
7. The Autonomic Nervous System					
1. The sympathetic system					
2. The parasympathetic system					
Chapter - 10					
1. Cardiovascular system					
1.1. Heart					
1.2. Chambers of the heart					
Heart, Arteries & Veins Forms the Circulatory System					

3. Yoga, Anatomy and Physiology	Understanding Concept	Application of Concept	Assignment	Test	Suggestion
1.3. The Cardiac cycle					
1.4. Pulse					
1.5. Heart Rate					
1. 6. Cardiac Output					
1.7. Blood pressure (BP)					
1.8. Factors affecting blood pressure					
1.9. Blood volume					
1.10. Cardiac output					
1.11. Peripheral resistance					
1.12. Elasticity of the arterial walls					
1.13. The viscosity of blood					
1.14. Disorders of blood vessels					
i) Arteriosclerosis					
ii) Atherosclerosis					
1.15. Disorders of blood pressure					
i) Hypertension's					

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ii) Hypotension					
Chapter - 11					
11. Endocrine System					
Hypothalamus					
Pituitary gland					
Thyroid gland					
Parathyroid glands					
Adrenal glands					
Pancreas					
Gonads					
Pineal gland					