



BRAINWARE UNIVERSITY

Term End Examination 2023-2024

Programme – B.Physiotherapy-2021/B.Physiotherapy-2022

Course Name – Ergonomics and Human Movement Science

Course Code - BPTS305

(Semester III)

Full Marks : 60

Time : 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 15=15

1. Choose the correct alternative from the following :

- (i) Tell the primary purpose of measuring skinfold thickness in anthropometry
 - a) To assess height
 - b) To evaluate body fat percentage
 - c) To calculate waist circumference
 - d) To estimate head circumference
- (ii) Tell the full form of BMI
 - a) Body Mass Index
 - b) Body Measurement Indicator
 - c) Body Mass Inspection
 - d) Body Mass Integration
- (iii) Select in the following a function of the golgi tendon organ
 - a) Detecting changes in muscle length
 - b) Regulating blood pressure
 - c) Transmitting pain signals
 - d) Maintaining body temperature
- (iv) Tell the primary use of head circumference measurement in anthropometry for adults.
 - a) To track growth and development in infants and children
 - b) To evaluate muscular development
 - c) To assess overall body size
 - d) To monitor neurological conditions and cranial growth
- (v) Name the primary role of the autonomic nervous system
 - a) Control voluntary muscle movements
 - b) Regulate the body's internal environment
 - c) Transmit sensory information to the brain
 - d) Maintain skeletal posture
- (vi) How does ergonomics contribute to workplace safety
 - a) By enforcing strict rules and regulations
 - b) By making the workplace more visually appealing
 - c) By increasing workload and pressure on employees
 - d) By reducing the risk of accidents and injuries
- (vii) Select a common symptom that is not a musculoskeletal disorders
 - a) Pain and discomfort
 - b) Numbness and tingling
 - c) Enhanced strength and flexibility
 - d) Limited range of motion
- (viii) Select an example of a cognitive ergonomic hazard

- a) Repetitive motion injuries
- b) Excessive noise levels
- c) Stress and mental fatigue
- d) Inadequate ventilation
- (ix) Tell the important of training for preventing ergonomic hazards
 - a) To increase office competition
 - b) To raise awareness and teach proper practices
 - c) To create a strict workplace environment
 - d) To make employees physically stronger
- (x) Tell the recommended angle for normal lumbar lordosis in standing posture
 - a) 10-20 degrees
 - b) 30-40 degrees
 - c) 50-60 degrees
 - d) 70-80 degrees
- (xi) Name anthropometric measurement is commonly used to assess the distribution of fat in the body
 - a) Waist circumference
 - b) Arm length
 - c) Head circumferenc
 - d) Foot width
- (xii) Select the main benefit of using ergonomic keyboard and mouse designs
 - a) They reduce the risk of repetitive strain injuries
 - b) They are more affordable
 - c) They look more sophisticated
 - d) They encourage awkward hand positions
- (xiii) Identify a psychological ergonomic hazard
 - a) Adequate ventilation
 - b) Poorly designed chairs
 - c) Workplace stress and excessive workload
 - d) Regular breaks
- (xiv) Name the part of the nervous system controls involuntary muscle contractions and posture
 - a) Central nervous system
 - b) Peripheral nervous system
 - c) Autonomic nervous system
 - d) Somatic nervous system
- (xv) choose the crucial role plays by cerebellum
 - a) Balance and coordination
 - b) Memory
 - c) Vision
 - d) Hearing

Group-B

(Short Answer Type Questions)

3 x 5=15

- 2. Explain the role physiotherapy in helping athletes optimize their ergonomics to prevent injuries (3)
- 3. Explain how ergonomics can impact the elderly and what role does physiotherapy play in improving their daily living activities (3)
- 4. State the use of Body Mass Index (3)
- 5. Explain the concept of ergonomic assessments in physiotherapy (3)
- 6. Illustrate some ergonomic adjustments that can improve workplace posture (3)

OR

Define posture in the context of human movement (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

- 7. Summarize the RULA method for evaluation of posture (5)
- 8. Describe the significance of waist circumference in assessing health risk (5)
- 9. Establish some ergonomic techniques for prevention of Musculoskeletal disorder at workplace (5)
- 10. Explain how physiotherapy can address ergonomic challenges in the construction and manual labour industries (5)
- 11. Describe the role of OSHA in setting and enforcing workplace safety and health standards (5)
- 12. Explain the role of postural deviations in identified and quantified during an evaluation (5)

Correlate anatomy of the spine to posture

OR

(5)

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