



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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