



BRAINWARE UNIVERSITY

Term End Examination 2024-2025

Programme – B.Physiotherapy-2021/B.Physiotherapy-2022/B.Physiotherapy-2023

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) Select the primary goal of ergonomics in the workplace
 - a) Maximizing productivity at all costs
 - b) Minimizing employee comfort
 - c) Improving employee well-being and productivity
 - d) Ignoring employee concerns
- (ii) Tell the important of prevention of musculoskeletal disorders in the workplace
 - a) To reduce insurance costs
 - b) To improve employee morale
 - c) To enhance productivity and reduce absenteeism
 - d) To create a more attractive office space
- (iii) Select in the following that is NOT a key component of an ergonomic workstation
 - a) An adjustable chair
 - b) A properly positioned computer monitor
 - c) A keyboard and mouse
 - d) A treadmill
- (iv) How can employees prevent ergonomic hazards in the workplace
 - a) Ignore discomfort and continue working
 - b) Report hazards to supervisors and participate in ergonomic training
 - c) Avoid using any equipment provided by the employer
 - d) Request unlimited sick leave
- (v) Identify the ideal monitor height for a computer workstation to reduce ergonomic hazards
 - a) At eye level
 - b) Below eye level
 - c) Above eye level
 - d) It doesn't matter
- (vi) State the purpose of a footrest in ergonomics
 - a) To make employees stand at their desks
 - b) To improve circulation in the feet
 - c) To keep employees' feet off the ground
 - d) To create extra storage space
- (vii) How can an ergonomic chair help prevent musculoskeletal disorders
 - a) By encouraging slouching
 - b) By providing proper support and reducing strain

- c) By promoting poor posture
- d) By increasing stress on the back
- (viii) Tell the primary advantage of adjustable desks in ergonomic workstations
 - a) They are more stylish
 - b) They require less maintenance
 - c) Employees can switch between sitting and standing
 - d) They are cheaper
- (ix) Choose in the following a common ergonomic hazard in healthcare settings
 - a) Comfortable patient beds
 - b) Incorrect patient positioning
 - c) Adequate staffing levels
 - d) Brightly lit corridors
- (x) Identify in the following that is not a common ergonomic hazard in construction and manufacturing industries
 - a) High job satisfaction
 - b) Vibration from power tools
 - c) Awkward postures
 - d) Heavy lifting
- (xi) Select the primary role of ergonomics in the prevention of accidents and injuries
 - a) To identify and mitigate potential hazards
 - b) To ignore safety concerns
 - c) To reduce employee comfort
 - d) To increase hazards and risks
- (xii) How can employees prevent ergonomic hazards when using computers
 - a) By working longer hours without breaks
 - b) By maintaining poor posture
 - c) By taking regular breaks and adjusting workstation components
 - d) By ignoring any discomfort
- (xiii) Select a type of posture often associated with rapid purposeful movements
 - a) Dynamic posture
 - b) Static posture
 - c) Upright posture
 - d) Slouched posture
- (xiv) choose in the following muscles responsible for extending the arm at the elbow joint
 - a) Biceps brachii
 - b) Triceps brachii
 - c) Hamstrings
 - d) Quadriceps
- (xv) choose an example of a ball-and-socket joint in the human body
 - a) Elbow
 - b) Knee
 - c) Hip
 - d) Ankle

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Define dual-energy X-ray absorptiometry scans, and its uses in measuring body composition (3)
3. Explain the role of skinfold thickness measurement in contribution to body composition assessment (3)
4. Describe three common anthropometric measurements used in assessing body size and composition (3)
5. Explain the term callipers in the context of skinfold measurements (3)
6. Explain the concept of the Centre of gravity in relation to posture (3)

OR

- Illustrate the biomechanical principles applied to improve posture (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Describe the factors that can influence an individual's body composition (5)
8. Describe the common musculoskeletal problems associated with poor ergonomics and how can physiotherapy address them (5)
9. Explain the significance of the OSHA Act in terms of workplace safety and health standards (5)
10. Evaluate the REBA method for evaluation of posture (5)
11. Describe some common methods and exercises used for posture correction (5)
12. Explain the importance of anthropometry for calculating of body composition (5)

OR

Describe the major muscle groups involved in maintaining upright posture

(5)

LIBRARY
Brainware University
Gerasat, Kolkata - 700125