

Week 5: Techniques/process of virtual ergonomics evaluation using DHMs

1. 95th percentile bi-deltoid breadth of the population with an additional allowance of 10% on each side is considered for evaluation of _____
Answer: Lateral clearance.
2. Which of the following is the most comfortable viewing angle (for placement of most frequently required displays)?
Answer: 15 degree below eye level.
3. Where should we keep our most frequently used objects/things for easy access and handling?
Answer: First horizontal reach zone of work-surface.
4. The size/ extent of the horizontal binocular field of view for human eye is _____
Answer: 120 degree.
5. Extent of monocular field of view is _____ than binocular field of view
Answer: Larger.
6. Volume of 'arm reach envelop is _____ the volume of 'arm comfort zone'.
Answer: Greater than.
7. To visualize any target beyond 80 degree view cone around the line of sight, there is requirement of _____ .
Answer: Neck and eye movement.
8. _____ degree view cone below eye level is considered as comfortable while frequent changes of gaze between two equally important visual targets are equally critical.
Answer: 30.
9. Comfort/ discomfort evaluation for a particular posture is a _____ measure in case of virtual ergonomics evaluation using DHM software.
Answer: Subjective.
10. In a seated posture, head and neck are generally at _____ forward tilt angles from an erect vertical upright head position.
Answer: 10⁰-13⁰ .
11. RULA grand score of 5-6 indicates that postural load is
Acceptable
Answer: Investigate further and change soon.
12. Comfortable viewing distance is _____ away from eyes for visual display based work.
Answer: 46.0-76.0 cm.

13. 'None of the important displays is positioned within blind spot zone of pilot's vision' - this statement is _____.
Answer: Correct.
14. 'Comfort range of motion for various body joints varies according to the posture' - the statement is _____.
Answer: Correct.
15. How many action categories are there in OWAS method?
Answer: 4.
16. Comfort discomfort analysis using DHM is dependent on _____.
Answer: Body joint angle data.
17. 'Comfort database for driving posture is also applicable for postural comfort evaluation of any industrial workplace' - the statement is _____.
Answer: Incorrect.
18. 'Angular limit or range of motion data for body joints may vary from individual to individual' - the statement is _____.
Answer: Right.
19. Compressive forces (generated in L4-L5 lumbar spine) have an allowable/ safe limit of _____ as recommended by NIOSH.
Answer: 3433N.
20. Which of the following is not a postural load analysis tool?
Answer: RUBA.
21. Visual targets within a visual angle of $< 30^\circ$, there are rarely eye movements. This 30 degree viewing area around line of sight is known as
Answer: Eye field.
22. Higher grand score in postural load analysis is an indication of _____.
Answer: Discomfort.
23. 'Effect of load handling is not considered in calculation of postural score in RULA method' - the statement is _____.
Answer: Incorrect.
24. Is it possible to identify the area/ zone, which is visually obstructed / obscured by an object in virtual environment, using DHM software?
Answer: Yes.
25. If supplementary eye movement is required to visualize an object, the view field is known as
Answer: Eye field.