

# Unit 4 - Week-2 : Introduction to Automotive Ergonomics - II

## Course outline

### How to access the portal

### Week 0 : Prerequisites

### Week 1 : Introduction to Automotive Ergonomics - I

### Week-2 : Introduction to Automotive Ergonomics - II

- Lec-1: Occupant Packaging : Basics and Details
- Lec-2: Principles of Control and Display Design
- Lec-3: Usability evaluation of In-vehicle control and displays
- Lec-4: Human Fields of View and Driver's Fields of View

### Quiz : Assignment 2

### Feedback form for week 2

### Week-3 : Introduction to Automotive Ergonomics - III

### Week-4 : Introduction to Automotive Ergonomics - IV

### Live Session

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## Assignment 2

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment.

**Due on 2019-08-21, 23:59 IST.**

1) Typically, the H-30 dimension for the medium and heavy trucks (class B vehicles) is greater than \_\_\_\_\_.

1 point

100 mm  
 200 mm  
 350 mm  
 500 mm  
 777 mm  
 900 mm

No, the answer is incorrect.  
 Score: 0  
 Accepted Answers: 350 mm

2) While driving; the navigation system is able to inform the driver at least 1-2 KM prior to take left or right turn. It means that the display and control device have great \_\_\_\_\_.

1 point

- Interpretability  
 Motion Sensing  
 Gyroscope  
 GPS System  
 Temporal Proximity  
 Data Speed

No, the answer is incorrect.  
 Score: 0  
 Accepted Answers: Temporal Proximity

3) During control/display evaluation, automotive ergonomist asks a question "Is the label illuminated at night?" Here, he is actually concerned about the control's \_\_\_\_\_.

1 point

- Identification  
 Interpretability  
 Findability  
 Operability  
 Usability  
 Aesthetics

No, the answer is incorrect.  
 Score: 0  
 Accepted Answers: Identification

4) For the legible display element; the minimum size of a critical detail for an experienced observer/operator should be \_\_\_\_\_ minutes of visual arc.

1 point

- 2  
 5  
 7  
 12  
 15  
 17

No, the answer is incorrect.  
 Score: 0  
 Accepted Answers: 2

5) \_\_\_\_\_ is the extent to which a product can be used by specific users to achieve specific goals with effectiveness, efficiency and satisfaction in a specific context of use.

1 point

- Exclusiveness  
 Inclusiveness  
 USP  
 Usability  
 HCI  
 Worthiness

No, the answer is incorrect.  
 Score: 0  
 Accepted Answers: Usability

6) Targets beyond \_\_\_\_ degrees require complementary head movements for proper vision.

1 point

- 25  
 35  
 45  
 60  
 80  
 90

No, the answer is incorrect.  
 Score: 0  
 Accepted Answers: 80

7) For a fixed gaze angle and focal distance, \_\_\_\_\_ is defined as the angular separation between two just perceivable points.

1 point

- Visual Integrity  
 Visual Harmony  
 Visual Obscuration  
 Visual Communication  
 Visual Basics  
 Visual Acuity

No, the answer is incorrect.  
 Score: 0  
 Accepted Answers: Visual Acuity

8) For the human eye, the size of the visual field varies depending upon the colour. It is largest for the yellow and blue colour and is smallest for the \_\_\_\_\_ colour.

1 point

- Indigo  
 Violet  
 Red  
 Green  
 Brown  
 White

No, the answer is incorrect.  
 Score: 0  
 Accepted Answers: Green

9) Typically the most comfortable viewing angle that must be used for placing the most important and frequently required display is \_\_\_\_\_ degrees.

1 point

- 15  
 25  
 35  
 45  
 60  
 65

No, the answer is incorrect.  
 Score: 0  
 Accepted Answers: 15

10) Within the \_\_\_\_\_; visual targets lying within a visual angle of less than 30 degrees rarely requires any eye movements.

1 point

- Stationary Field  
 Eye Field  
 Field of View  
 Shoulder Field  
 Head Field  
 Shooting Field

No, the answer is incorrect.  
 Score: 0  
 Accepted Answers: Stationary Field

11) The vertical distance from the driver's SgRP to the upper trimmed body opening is known as \_\_\_\_\_.

0 points

**Hint**

No, the answer is incorrect.  
 Score: 0  
 Accepted Answers: (Type: Regex Match) ntrance height (H11)  
 (Type: Regex Match) ntrance height

12) Considering the exterior styling first; followed by fitting the engineering within the specified volume; forms the \_\_\_\_\_ approach of occupant packaging process.

0 points

No, the answer is incorrect.  
 Score: 0  
 Accepted Answers: (Type: Regex Match) raditiona

13) Beeps, tones, buzzers and voice messages are the essential components of \_\_\_\_\_ display.

0 points

No, the answer is incorrect.  
 Score: 0  
 Accepted Answers: (Type: String) Auditory

14) In context of In-vehicle controls; the \_\_\_\_\_ switch can change its controlled function depending on its selected mode.

0 points

No, the answer is incorrect.  
 Score: 0  
 Accepted Answers: (Type: Regex Match) rogrammable/reconfigurable  
 (Type: Regex Match) rogrammabl  
 (Type: Regex Match) econfigurable

15) \_\_\_\_\_ is defined as the region or extent of the external world/space which is visible at an instant during steady fixation of gaze in one direction.

0 points

No, the answer is incorrect.  
 Score: 0  
 Accepted Answers: (Type: String) Field of View

16) The approach promoting a clearer focus on the occupant issues inside the vehicle first and then the exterior designing to accommodate the people and all other vehicle components lying inside; is known as the bottom-up approach.

1 point

- FALSE  
 TRUE

No, the answer is incorrect.  
 Score: 0  
 Accepted Answers: FALSE

17) In context of Occupant Packaging, positive X axis of co-ordinate system indicates upward direction from ground

1 point

- FALSE  
 TRUE

No, the answer is incorrect.  
 Score: 0  
 Accepted Answers: FALSE

18) The appropriate use of display type, layout, scales/pointers, stereotypes, use of colours, coding and frame of reference must be evaluated to enhance display's functionality.

1 point

- FALSE  
 TRUE

No, the answer is incorrect.  
 Score: 0  
 Accepted Answers: TRUE

19) To avoid the obscuration in the direct side view of at least 95% of the drivers, the upper edge of the mirror should be placed at least 75 millimetres below the fifth percentile driver's eye location.

1 point

- FALSE  
 TRUE

No, the answer is incorrect.  
 Score: 0  
 Accepted Answers: FALSE

20) The minimum requirement of Field of View for side mirror specifies that the driver's side outside-plane mirror should provide a horizontal field of 20 feet width at 35 feet behind the driver at the ground level.

1 point

- FALSE  
 TRUE

No, the answer is incorrect.  
 Score: 0  
 Accepted Answers: FALSE

21) The mid-point of the imaginary line connecting two hip joints, is better known as

1 point

- Pedal Reference Point (PRP)  
 Seat Reference Point (SRP)  
 Seating Reference Point (SgRP)  
 Accelerator Heel Point (AHP)  
 H-point

No, the answer is incorrect.  
 Score: 0  
 Accepted Answers: H-point

22) The point located at the intersection of the heel of shoe and the depressed floor covering, when the shoe tool is positioned contacting the lateral centreline of the un-depressed accelerator pedal, while the bottom of shoe is maintained on the pedal plane, is better known as

1 point

- Pedal Reference Point (PRP)  
 Seat Reference Point (SRP)  
 Seating Reference Point (SgRP)  
 Accelerator Heel Point (AHP)  
 H-point

No, the answer is incorrect.  
 Score: 0  
 Accepted Answers: Accelerator Heel Point (AHP)

23) The intersecting point of midline of compressed seat-back and midline of compressed seat-pan, is better known as

1 point

- Pedal Reference Point (PRP)  
 Seat Reference Point (SRP)  
 Seating Reference Point (SgRP)  
 Accelerator Heel Point (AHP)  
 H-point

No, the answer is incorrect.  
 Score: 0  
 Accepted Answers: Seat Reference Point (SRP)

24) The mid-point on the lateral centreline of the un-depressed accelerator pedal when the Ball of Foot contacts the pedal and the shoe tool, is better known as

1 point

- Pedal Reference Point (PRP)  
 Seat Reference Point (SRP)  
 Seating Reference Point (SgRP)  
 Accelerator Heel Point (AHP)  
 H-point

No, the answer is incorrect.  
 Score: 0  
 Accepted Answers: Pedal Reference Point (PRP)

25) The H-point of the diver with 95th percentile lower limb dimensions while the driver adjust the seat at the rearmost position of the seat-track travel, is better known as

1 point

- Pedal Reference Point (PRP)  
 Seat Reference Point (SRP)  
 Seating Reference Point (SgRP)  
 Accelerator Heel Point (AHP)  
 H-point

No, the answer is incorrect.  
 Score: 0  
 Accepted Answers: Seating Reference Point (SgRP)