



**UTHM**  
Universiti Tun Hussein Onn Malaysia

**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

**FINAL EXAMINATION  
SEMESTER II  
SESSION 2015/2016**

COURSE NAME : ERGONOMIC AND ANTHROPOMETRIC  
COURSE CODE : BPP 10202  
PROGRAMME CODE : BPP  
EXAMINATION DATE : JUNE / JULY 2016  
DURATION : 2 HOURS  
INSTRUCTION : ANSWERS ALL QUESTIONS

THIS QUESTION PAPER CONSISTS OF **FIVE (5)** PAGES

- Q1** For the dimensions listed in the **Table Q1** below, indicate (first column) the important (limiting) body dimension to be considered, and (second column) whether a 5th or 95th percentile anthropometric dimension should be used.

**Table Q1**

<b>Dimension</b>	<b>Limiting Body Dimension</b>	<b>Design Dimension to Use (5th or 95th)</b>
Distance from seat surface to roof		
Horizontal distance from lower edge of steering wheel to seat Back		
Vertical distance from lower edge of steering wheel to floor		
Distance between dashboard and seat back		

Design the driver's seat in a car

(20 marks)

- Q2** A seated work station is to be designed. The work station consists of a table with a fixed height and an adjustable chair with an adjustable foot rest.

- (a) List **FIVE (5)** suggestions for the important design features of the chair and the height of the table.

(10 marks)

- (b) Explain and justify from your assumptions based on answers **Q2 (a)**.

(10 marks)

- Q3** The layout of an arcade video game console for use by 15 to 18 year olds is shown with the popliteal height given in **Figure Q3**.
- (a) Identify **FOUR (4)** other important areas on the human or machine interface where the size would be an important aspect of the design. (10 marks)
  - (b) Illustrated a dimensioned scale shows the sizes of the areas identified in **Q3(a)** using scale ergonomic and tables of anthropometric data, (10 marks)
- Q4** (a) Creating a suitable computer environment is important. The diagram demonstrates an appropriate computer work station in **Figure Q4**.  
List **FIVE (5)** potential injuries that could occur as a result of long term computer use. (5 marks)
- (b) (i) Recommended the ideal range for monitor distance. (4 marks)
  - (ii) Justify the monitors in our computer laboratory in appropriate distance. (3 marks)
  - (c) Discuss the ideal wrist positioning when using the keyboard. (7 marks)
  - (d) Determine the body should be in contact with the chair when sitting at a computer workstation. (7 marks)
  - (e) Determine the feet be positioned when sitting at a computer workstation. (7 marks)
  - (f) Determine your ears been positioned in relation to your shoulders and your monitor when sitting at a computer workstation. (7 marks)

**-END OF QUESTIONS -**

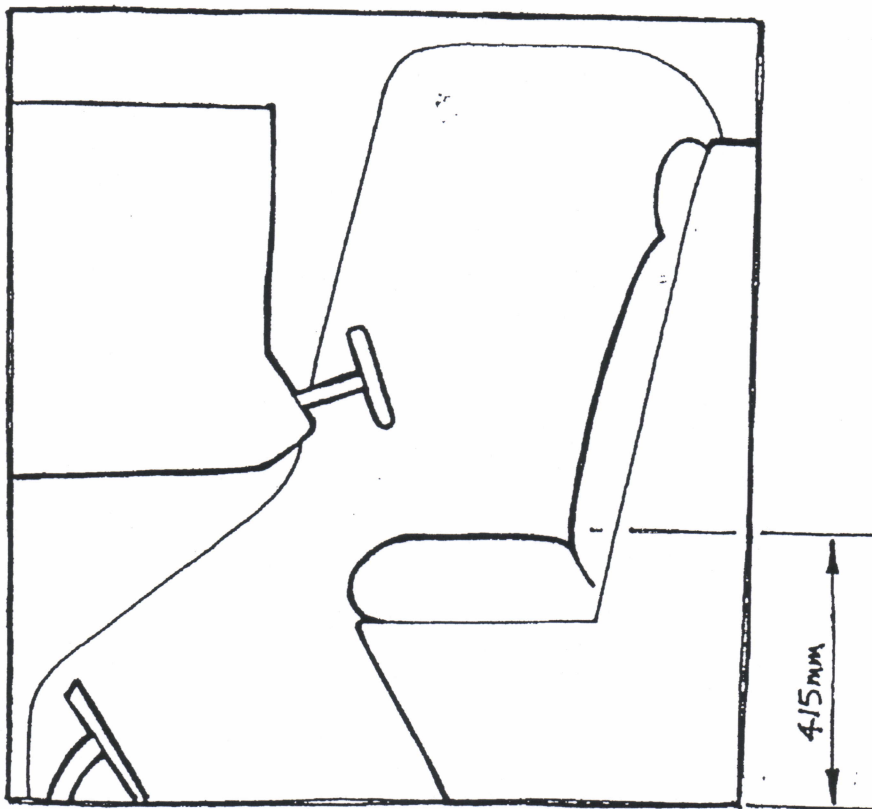
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**Figure Q3**

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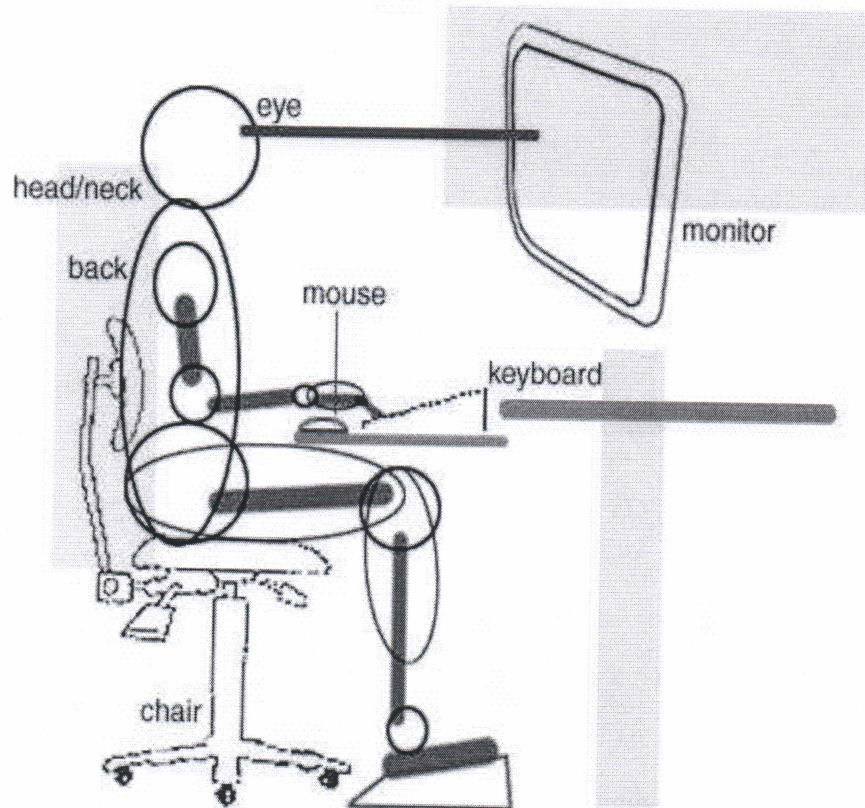


Figure Q4