Topic 3 - Modelling

**Use your own words where possible**

**3.4 Computer-aided design (CAD)**

Describe how 3 different types of CAD software is used.

List the advantages of CAD.

List the disadvantages of CAD.

Explain the difference and similarities between surface and solid models.

Describe Data models. Include an example diagram.

Write brief notes on flat file models and include an example diagram.

Explain how hierarchical models portray their data and include a diagram.

Describe relational models. Include a diagram.

Write brief bullet points in object-oriented models. Include a diagram.

How do network models differ from hierarchical models? Include a diagram in your explanation.

Why has virtual prototyping on replaced rapid prototyping?

Define ‘bottom up’ design.

Define top down design.

What are digital humans?

Why are they used?

How does motion capture work?

What are the benefits of using motion capture?

How has using digital humans benefited designers?

What is computer animation?

How does computer animation differ from virtual reality?

What potential does virtual reality technology have?

What are virtual technologies used for?

What is FEA?

What are some of the components included in a number of FEA software packages?

How can the packages be used to benefit the designing process?

What are the negatives for using FEA?