

Engineering



Course Information

BTEC National Engineering NQF 2016

33% Externally Assessed Work

67% Internally Assessed Assignment Work

Useful Websites

<http://www.pearsonschoolsandfecolleges.co.uk/AssetsLibrary/SECTORS/FurtherEducationColleges/BTEC-Nationals-2016/Resource-Guide-PDFs/BTEC-National-16-Engineering-Resource-Guide.pdf>






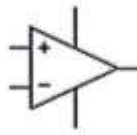




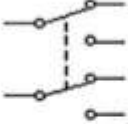




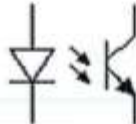
Equipment

2B pencils
Colouring pencils
Highlighters
Ruler
Rubber
Pens
HB Pencils
Fine Liners
30cm Ruler
Sharpener
Highlighters
Protractor
A3 Drawing Board
A3 Portfolio folder
Digital Calliper
Scientific Calculator– we recommend Casio fx-83GT PLUS or Casio fx- 85GT PLUS
Safety Footwear
Coverall/overalls

(this equipment will be needed for start of course – the PPE of Safety Footwear and Coverall/overalls will be provided by the UTC)

Task 1

Researching the following components and complete the table below.

Symbol	Name	Polarized?	Symbol	Name	Polarized?
					
					
					
					
					
					
					
					

Task 2

Use the following table to explain the key terms and give an example product for each.

Scale of Production	Explanation	Example
One off		
Small batch		
Large Batch		
Mass		
Continuous		

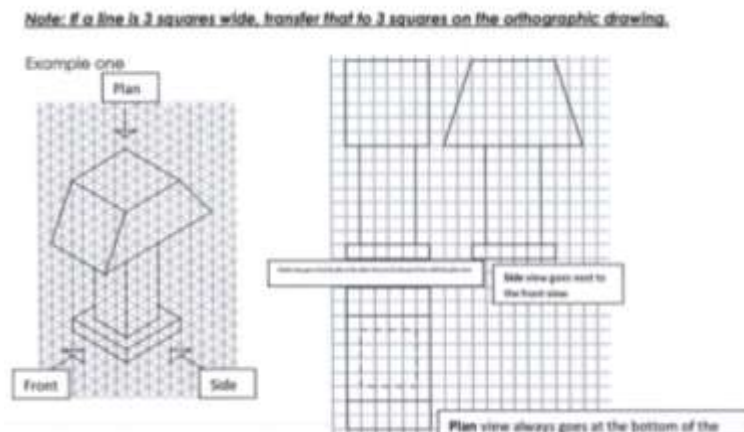
Task 3

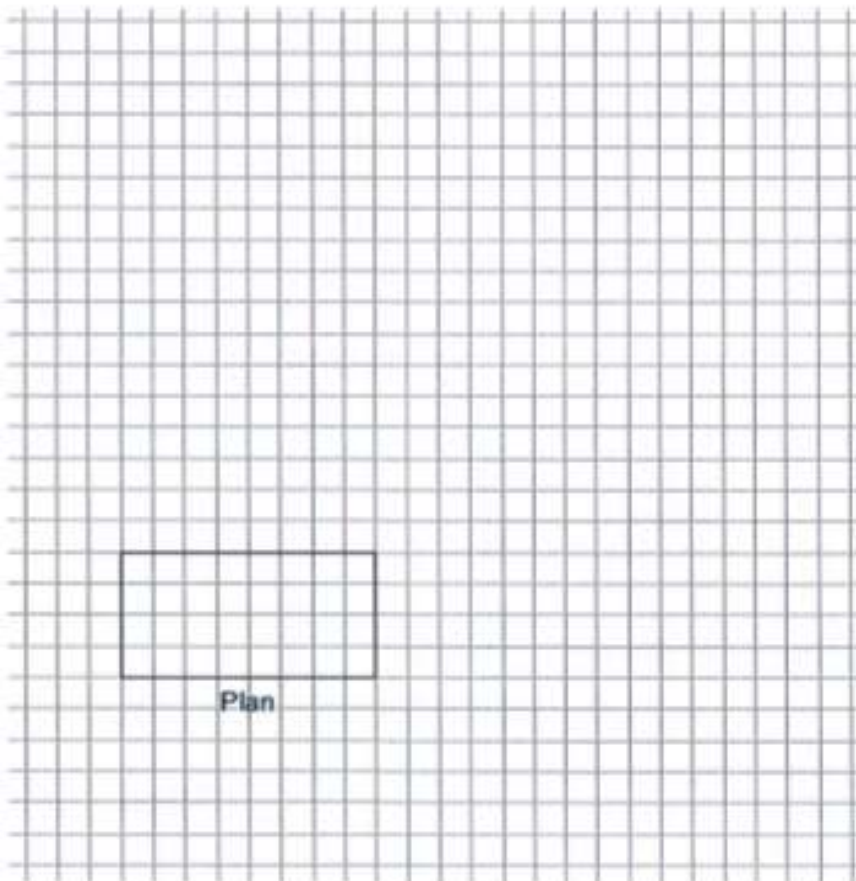
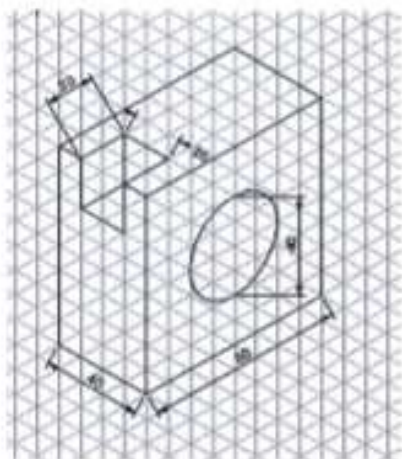
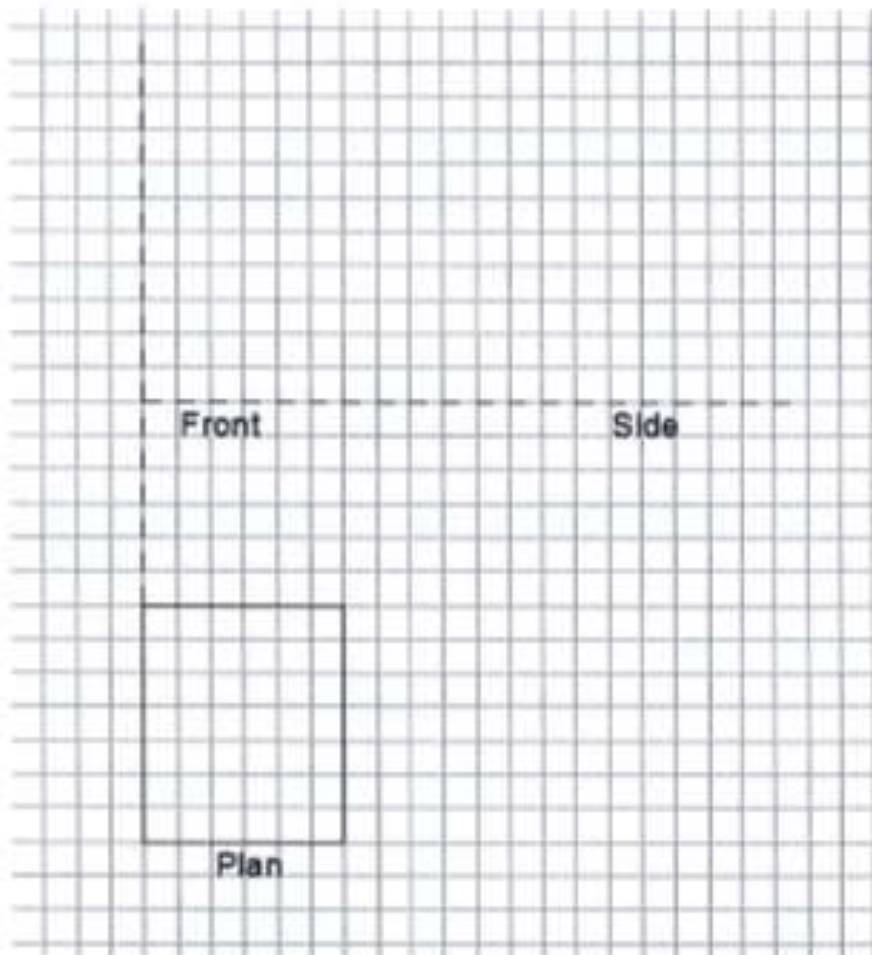
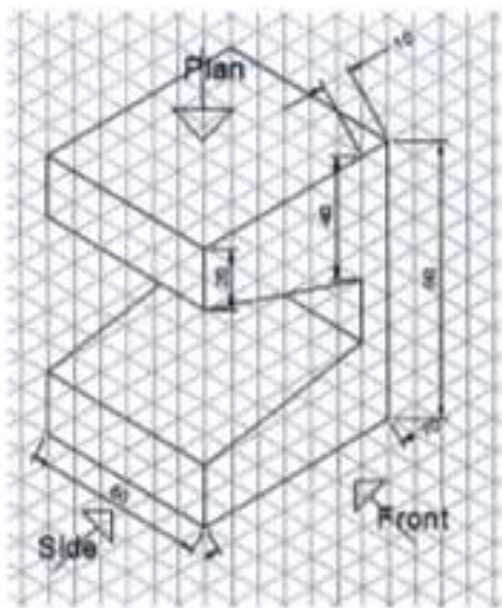
Produce an orthographic projection of the 2 objects shown on page 4.

As a reminder:

“Orthographic projections are working drawings in either a first or third angle projection and show each side of a design without perspective, i.e. a 2D drawing of a 3D object. They are used to show an object from every angle to help manufacturers plan production.”

Here is an example:





Task 4

Investigate the manufacture of a mass produced G-Cramp (sometimes called a g-clamp or c-clamp)

1. Explain all of the relevant processes including hot forging, turning, upset forging and assembly.
2. Explain how this is a team working operation and how safe working practices are critical to effective mass production.

Task 5

Identify the common process used to create engineering products:

Process	Example of process
Fitting	
Machining	
Forming	
Fabrication	
Electrical	

Task 6

What motivates me and why I have chosen this course?

In approximately 500 words, write an informative essay about yourself and why you chose Engineering as an option subject. Consider the following:

- Your successes
- Your motivation
- Your aspirations
- Your influences