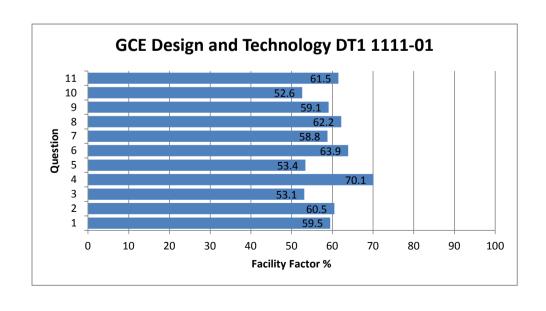


WJEC 2014 Online Exam Review

GCE Design and Technology DT1 1111-01

All Candidates' performance across questions

?	?	?	?	?	?	?	_
Question Title	N	Mean	S D	Max Mark	F F	Attempt %	
1	773	4.8	2	8	59.5	32.9	
2	1764	4.8	2.1	8	60.5	75	
3	1818	4.2	1.8	8	53.1	77.3	\leftarrow
4	2019	5.6	1.6	8	70.1	85.8	
5	814	4.3	1.5	8	53.4	34.6	\leftarrow
6	1527	5.1	1.7	8	63.9	64.9	
7	1194	4.7	1.7	8	58.8	50.7	
8	1739	5	1.8	8	62.2	73.9	
9	762	17.7	6.1	30	59.1	32.4	
10	542	15.8	5.6	30	52.6	23	\leftarrow
11	1043	18.5	5.6	30	61.5	44.3	



SECTION A

Answer five questions from this section.

This section is designed to demonstrate your breadth of knowledge in Product Design.

Each question carries 8 marks.

3. Patents, Copyrights, Registered Trade Marks, Registered Design and Design Rights are distinct intellectual property rights granted by the Intellectual Property Office.

Describe the features and protection provided by **two** of the above intellectual property rights. $2 \times [4]$

section A

section A. . 44



Section A Patent is a legal right for designed is granted by the intellectual property office. Partent cover a new idea that has never been seen before. The skills used to make it mounted could new and not used by another artist before lastly, the idea must be physically possible. Most patent are mecanical objects. For a pale For a patent to 20 years the company must renewed it The patent protects cop from other people copying them An example of this is lego they have a patent for there brack: he material used and the way they fit together, James Dogos Another To give the statifying click". example is James Dyson he won a Syear legal battle Armrys. As the copied his ideas propon Can be sold, lincensed or lent out to pterpeople Franciamon Registered brademark is also a legal pright, granted by the intellectual property office. resquistered trademark covers the words, symbol words, for a company, it protect being copied by other people. The oldest trackemark is the red briss triangle. The registrademark can distiguish to similar products from each other e.g. coke and pepsi x against

Cwestiwn Section A Patent is a legal right for designeral is granted by the intellectual property effice. The Partent cover a new videa that has never been seen before. The skills used to make it mounted could be new and not used by another artist before lastly, the idea must be physically possible. Most patent are mecanical objects. For a pate For a patent to last 20 years the company must renewed it The patent protects from other people copying them. An example of this is lego they have a patent for there brack: he material used and the way they fit together, James Dasas Another To give the statifying click". example is James Dyson he won a Syear legal battle Armrys. As the copied his ideas pi from. Can be sold, lincensed or lent out to pter people Francisma Registered brademark is also a legal pright granted by the intellectual property office resgistered trademark covers the horder words, for a company, it protect being copied by other people. mark is the red beiss triungle. The regi from each other e.g. coke and pepsi x against

3)	MARKE
	When a product is Copyrighted it means that the
	individual product carnot be used by any body else without
	the owners permission. It states a clear ownership of the
	product and entitles he person to press charges on
	any body who copy res her work and do claims it
	to be Heir own. A Copyright will cost money for
	he be their own. A Copyright will cost money for the owner to enforce and does only least a
	certain amount of years with it was off and
	must be claimed by oupyright again to enforce
	le same features as before.
	Design with nights and states the ownership of a design
	work workers a Copyright is used on a number of
	different Milnogs. A Design sight entitles the person who
	enforces the 1+ with protection on their products designs
	no the product itself. This is done in the certif
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- **5.** Both solid modelling and performance modelling are used in the development of products.
 - (a) Describe **two** benefits of solid modelling to the designer. $2 \times [2]$
 - (b) Describe **two** benefits of performance modelling to the manufacturer. $2 \times [2]$

© WJEC CBAC Ltd. (1111-01) Turn over.

5a	A solid model can benefit a designer as
	hey can relate to the shape size and
C	neight of the product before they manufacture
1	The finished product. It can show them changes
	hey may need to make before further munifucturing.
	A performance model can show the mantacture
	if these product works properly functions
- 6	properly and of there is any problems which
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	of it. They will show the manfricturer excertly how well
\	t works

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use	in order to gath recalbact on creas such as anotherics, or engonomers
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cha	il, and also to test authoropometrics for example whether one backrest is one
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301	id medelling involves creating a 3D physical medel of a product or
	iponent.
b) Ber	refits of performance moderling to one manufactures.
	for morce moderling, for example rapid prototyping or selective lasses intertig
	the one developmentatione Dyson DCII vacuum cleaner, invalues using CADICAN
gen	ercute models, and pre-production prototypes.
one	manufacturer con use a performance model to carry out tests on the product.
to	example testing materials for strength & toughness as well as about properties.
	a manyacturer concens use it for tests in me quality control process, to
	ex the quality of coppearen as I dimensions and talerances, to ensure that
	product meets the specification before going into manufacture.



4	Benefits at solid modelling to the Designer:
6	. The designer can show sould madely, for example at anothic anount to the target
_ <	user in order to goth recabout on creas such as an evenics, or engonomyto
	which one user con test the product against. This will help identify where one
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85	sould modelling con also be used by the designer to test the function of a
4	roduct, for example mechanisms, such as those to lift seatherights in a office
	chair, and also to test cuturepometrics for example unether one backrest is one
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_	generate models, and pre-production protocypes.
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- 1	for example testing materious for strength & toughness as well as over properios.
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4	Check the quality of expression is a climensions cratcheraces, to ensure that
-	the product meets the specification before going into manufacture.

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5a)	Solid modelling can allow the designer
,	to assess the shape and form of the
	roduct allowing them to determine whether
	the aesthetic design regarding shope and
	the aesthetic design regarding shope and form produces the desired emotional response.
	response.
	Also the solid model can be placed in
	the products intended environment. This allows
	the designer to determine if the product is
	the correct shape and size to suit its
	environment, or whether changes are needed.
Ъ)	Performance Modelling Means that the
	manufacturer does not need to run a fill
	Scale production test to ensure the product
	performs, instead a specific element of performance
	Can be tested - soving time and Maney
	Furthermore a performance model can
	help a manufacturer determine if a production
	process needs to be done in a specific May to
	ensure final product performance. If this was
	not done as performance modelling arias to
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	and scale production then it would be costly to charge processes mid-production.
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	Also, the solid model can be placed in	
	the products intended environment. This allows	
	the designer to determine if the product is	
	the correct shape and size to suit its	
	environment, or whether changes are needed.	
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	Scale andurtion test to ensure the product	
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	not done as performance modelling prior to all scale production then it would be costly to charge processes Mid-production.	-
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SECTION B

Answer one question from this section.

Your answer should be substantial and show the depth of your knowledge in Product Design.

Each question carries 30 marks.

10. Fashion, style and trends are important factors in the development of products, such as the continuous development of mobile technology.

Discuss this statement in relation to a **different** product or range of products.

[30]

END OF PAPER

	Later Manager
10)	contemporary Style popularity bands
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	to with designers trying to come up with new was to set
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	successful in modern day exciety. With pop collure
	forcing the Me market to keep selling new products with
	better provide and more technology. Current styles
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	development of new technology. This is because of the
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	in society as they know that that is what sells people
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	manufacturers also need to bring out bother technologies
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	don't teep getting the same with every computer her buy.
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	popularity of the Kp Apple softweres Mac computer.
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	match the large cas amount of customers expectations as
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	adjusted in hollow and set This and delay
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	A specific innovation and technological advancement in
	compiles is the invention of languages labops. Laptops
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years due to heir innovation being that May are
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This her becase he som in peoples lives. This
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The sale	and fushionable company a companies making for top
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10	Fashion, single and herebs contribute significantly
	to the development of products; computers formerly
	were replaced once every 6-10 years, however
	recently this has decreased to once every 2-5
	years, as consumors buy history hiptors with
	new styles to palow mends. However fashion is
	not the only important factor in the development
	of products, with developments in materials
	technology, me introduction of smoot materials,
	elonomical processes and the environment tas acting
	as significant factors in product development.
	Fashion trends are certainly an important
	factor in me development of products; smartphones
	are replaced annally for new never versions
	with other superficial dovelopments, and over
	12 million phones are moun away anually.
	The importance of eachion in design development
	to highlighted by the use of planned or
	built - m Obstalescence, wo Products such
	as thempos it it have glass backings and screens;
	these are brittle and break easily when
	dropped, and it is often cheaper to replace
	the product instead of its components.
	encauging the consumers to replace products with
	newer more pashionable voisions more prequently. The significance of factorion is highlighted by
	The significance of fadrion & highlighted by
	General Motors (GIM), whose chairman observed
	mat style hends them quelled doublepments as
	early as me 1920s; General Motors mon
	became the first company to come produce
	new styles of coss with a different aesthetic anually, with the cas being to displayed by
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	Vogue magazine as a fachion accessory.
	Mowever product developments are not
	only based on Eushion: unlike GIM, who
	anually update their aesthetic," Germon and
	Scandinavious Cas de signar such as Volus

	make developments to inchase their products'
	quality and durability, ensuring that their
	products toe are long-batting. Because of this
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	our market is almostas large as the its
	market buying new models, through approved
	used dealerships.
	Furthermore, developments are not only
	made bused on tusinon but also on development
	in materials technology. In 1982 the Lotus
	Bike was produced using Carbon sibre, a
	modern material; this was a simi produced
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3	bicy de compared to the existing aluminium
	trames, and could be made from one
	contral of mould rather than using the time-
	consuming process of webling alyminium posts
	together. In this development twas me most
	important factors were fitness for purpose , and
	materials development, with the bike allowing
	Britain to win the 1982 plympics due to
	the streamlined strape and light useight frame
	increasing speeds, rather than its aesthetic. Furner
	developments with tig biggles use a similal privaciple.
	The more significant double prients in
	products such as kettles have emerged due
	to developments in processes, technicalo and
	with the merken of modern and smort
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	plastic Acetal allowed the Katherineating element
	to be placed movide the kettle or and in
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2	refle more extricient; the emergence of
	plastics, which can be injection moulded,
	have caused stanificant developments in
	Kettle design as they allows products to

be produced in large batcher with several
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such as star Phillips Stark's AEG Kettley
these have sometimes been quite unsuccessful
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instead using stainless steel, so too users would
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sutwistic aesthetic was attractive and today
iconic, it was an ineffective dasign, with
uses Andre is difficult to fill the kettle.
Developments have instead bean +> primarily coursed
on ease of use and safety, with
smort materals such as themochromatic pigment
being misoduced in recent Russel Habbs Kettles;
allows the proment changes about when the water
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water is already had hot and does not
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The consumer also cares about the
environment, resulting in a market Pull FOC
more efficient products such as the dyson
cirblade hard dryer, which uses significantly
less energy than ordinary hand diggers to
dry hands. Shape nemary Alloys (SMAS) are being introduced the phone compounts
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	significant developments emerge due to new technology
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Question number

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