DESIGN: PAPER I

MARKING GUIDELINES

Time: 3 hours   150 marks

These marking guidelines are prepared for use by examiners and sub-examiners, all of whom are required to attend a standardisation meeting to ensure that the guidelines are consistently interpreted and applied in the marking of candidates' scripts.

The IEB will not enter into any discussions or correspondence about any marking guidelines. It is acknowledged that there may be different views about some matters of emphasis or detail in the guidelines. It is also recognised that, without the benefit of attendance at a standardisation meeting, there may be different interpretations of the application of the marking guidelines.

INSTRUCTIONS TO MARKERS

- Please mark clearly in RED pen. The Moderator will mark in GREEN.
- Place a tick **above each substantiated fact** (not in the margin). This will enable the Moderator to standardise effectively.
- Please indicate **marks per sub- question as an <u>underlined number</u>** in the right hand margin at the end of each sub-question.
- Indicate **total marks PER QUESTION** at the **end of the question** as a **circled total.**
- Where a script has been marked, but the information is either irrelevant/does not answer the question OR is over and above information required, please indicate that marking has occurred in the margin as a squiggled line. This is to prevent remarking of scripts – if a page is left totally blank, the checkers will presume it has not been marked.
- Enter marks/question/candidate on the data capture form prepared by the Examiner. No candidate numbers are to be recorded, only the marks.
- Please record relevant comments per centre as to specific problems/ credits encountered PER CENTRE so as to enable constructive feedback to the centres.

SECTION A   DESIGN LITERACY   50 marks

QUESTION 1   THE DESIGN PROCESS

Question 1.1

QUESTION TYPE/ COGNITIVE SKILLS: Recall of elements and principles (5 marks) Application (5 marks)

LO1 AS 1   Demonstrate a sound understanding of the interrelated nature of the planning, action and reflection cycle which informs the design process.
LO1 AS 2.1   Display knowledge and appreciation of responsible design by taking into consideration human rights issues throughout the process, such as: local culture, health and safety with specific reference to HIV, access and inclusivity; use of materials that are safe and accessible to all; environmental issues; gender and bias; use of materials and processes that are free from stereotyping; ethics and intellectual property.
LO2 AS 1.1   Apply and provide evidence of the design process.
LO2 AS 1.4   Demonstrate an awareness of the various materials and production processes relevant to the chosen discipline/s.
LO2 AS 1.8   Interpret, use and explain the choice of design elements, principles and materials in the final product, service or environment.
LO2 AS 3.2   Understand the health and environmental implications related to the use of materials.
LO3 AS 2.1   Demonstrate an understanding of the ways in which design can be used to reinforce or challenge social, cultural, environmental and ethical issues.
LO3 AS 2.2   Demonstrate an understanding of the designer's responsibilities in relation to environmental issues and sustainable design
LO3 AS 3.2   Demonstrate an understanding of responsible design by taking into consideration human rights and environmental issues throughout the process.

LEVEL: Lower (5) Middle (5)

Candidates had an either/or choice to answer in detail on reducing carbon footprint and/or reducing negative lifecycle impacts. Answers can be detailed or in more generalised terms. However, the answers must explain **HOW** they would offset carbon footprint/ reduce lifecycle impact.
5 main points are needed – 1 mark per design consideration + 1 mark for elaboration. (10 marks)

One mark/ substantiated fact to be awarded for any of the points below.

Negative Lifecycle impacts can be:	Counter-actions
Environmental • Deforestation, desertification, loss of biodiversity or environmental degradation caused by overuse of resources before use • air and water pollution as by-products of industrial production • pollution via landfill sites as consequences of packaging and disposal after use	• control the conditions of harvesting/obtaining raw ensuring that the sources of materials were local, indigenous and certified by the FSC or another body • ensure that the manufacturing process was non-toxic, using alternative energy sources • Use of Carbon Offsetting Financial investments made to 'offset' the carbon emissions of a product or process. These include the investment in technologies or practices that reduce carbon in another industry, or the gathering and sequestering of carbon through nature, such as forest restoration, tree conservation, and renewable energy projects (solar and wind farms).
Social • exploitation of labour during production • endangering users of end products by using unsafe materials, lowered safety standards	• ensure that the conditions of manufacturewere fair, equitable to the labourers who could share in the profits (Fair Trade) • ensure adequate research into ergonomics • trainingprovided to staffing • conditions of labour are sustainable – payment, support, healthcare

Economic	
• Rich get richer, inequalities perpetuated • Emphasis on profit margins at all costs	• Balance of the triple bottom line • Fair Trade certification
Cultural	
• promotion of antisocial ideas or values • Discrimination and inequalities • Cultural hegemony • … etc., etc..	• Community involvement and on-going feedback processes

Carbon Footprint – Definition:

Carbon Footprint refers to the total amount of greenhouse gases emitted directly or indirectly through an activity or from a product, company or person, typically expressed in equivalent tons of either carbon or carbon dioxide. Methods of calculation have yet to be standardised.

Reducing carbon footprint involves:

PRE PRODUCTION
- **Renewability**: materials should come from nearby (local or bioregional), sustainably managed renewable sources that can be composted when their usefulness has been exhausted.
- **Use of local indigenous materials;** Use of forest stewardship material and the like; using local materials thereby reducing transport costs.
- **Use of low-impact materials**: choose non-toxic, sustainably produced or recycled materials.
- **Quality and durability**: longer-lasting and better-functioning products will have to be replaced less frequently, reducing the impacts of producing replacements
- **Design for reuse and recycling:** 'Products, processes, and systems should be designed for performance in a commercial 'afterlife'.'
- **Use Biomimicry** as a design strategy: 'redesigning industrial systems on biological lines … enabling the constant reuse of materials in continuous closed cycles...

PRODUCTION
- **Plan energy efficiency**: use manufacturing processes and produce products, require less energy.
- Using **clean production** methods like handcrafting, low-tech production.
- Production plants powered by **alternative energy sources**.

POST PROD
- Limited **use of transportation** – use of shipping rather than air; bicycle delivery not air/road…
- Encourage **reduce, reuse recycling** ….
- **Limit packaging waste**
- **Encourage** Carbon Labelling– a label disclosing a product's carbon footprint.

Question 1.2

QUESTION TYPE/ COGNITIVE SKILLS: Recall (2 marks)

LO 1 AS 1	**Demonstrate a sound understanding of the interrelated nature of the planning, action and reflection cycle which informs the design**
LO 2 AS 1.8	**Interpret, use and explain the choice of design elements, principles and materials in the final product, service or environment.**
LEVEL:	**Lower**

---

1 mark to be awarded per correct fact/convention/technique of two communication techniques.   **(2)**

Answers can refer to any technique/convention that communicates **an initial idea/ concept**
- Mindmap,
- moodboard,
- brainstorming,
- concept sketches,
- organograms,
- flowcharts,
- thumbnails,
- scamps ...
- storyboards
- maquette
- prototype
- vision board

No explanation needed, only listing.

[12]

QUESTION 2   DESIGN COMMUNICATION

Question 2.1

QUESTION TYPE/ COGNITIVE SKILLS: Analysis (3 marks), Evaluation (3 marks)

LO 2 AS 1.8	**Interpret, use and explain the choice of design elements, principles and materials in the final product, service or environment.**
LO 3 AS 1.3	**Discuss, explain and demonstrate the context and purpose of the products, images, signs and symbols used in design to convey overt and hidden messages that reinforce or challenge stereotypes, biases and prejudices, past and present.**
LO 3 AS 1.4	**Investigate, reflect on and interpret information from a variety of sources that show global influences in shaping the development of design**
LO 3 AS 1.5	**Analyse, interpret and critically reflect on examples and relate them to their cultural, historical and contemporary contexts.**
LO 3 AS 2.1	**Demonstrate an understanding of the ways in which design can be used to reinforce or challenge social, cultural, environmental and ethical issues.**
LO 3 AS 3.1	**Demonstrate a basic understanding of marketing design products in terms of target market, packaging and advertising.**
LEVEL:	**Middle (3 marks), Higher (3 marks)**

Answers should indicate an understanding of what greenwashing means through correct identification and credible substantiation using one or both of the visual examples. One mark should be awarded for the **correct identification** of a strategy and another mark for

the substantiation of the greenwashing strategy Marks should be awarded for any credible
answer.   (6 marks)

What is greenwashing?

Green Washing is the act of misleading consumers regarding the environmental practices
of a company or the environmental benefits of a product or service. It is the unjustified
appropriation of environmental virtue by a company to create a pro-environmental image,
sell a product or a policy, or to try and rehabilitate their standing with the public and
decision makers after being embroiled in controversy.

Greenwashing involves focusing more on communicating your green efforts than on the
efforts themselves. This technique is when companies use 'green' marketing to make their
policies or products look environmentally friendly. These companies know that people
want more environmentally-friendly products, and are taking the measures necessary to
please the people while still hanging on to their big bank accounts. Another recent term is
called Astro-turfing, referring to the practice of creating fake grassroots movements to
spread disinformation.

Image 1 – Purelife Waterbottle

• Strategy – 'Fashionably thinner' – rubbish, anthropomorphic suggestions…
  language appeals to fashion set, probably placed in a fashion mag, target market
  women who are interested in their figures.

• '15% less plastic'– maybe, but still 85% plastic! Takes 500 years to biodegrade
  anyway.

• 'Eco- shape bottle' – what is an eco-shaped bottle? Organic shapes do not equal an
  organic product.

• Greenbackgrounds in both – suggestive colour by association.

•

• Or any other credible answer.

Image 2 – Mentos strawberry gum

• Typography reads ´freshly picked gum'– gum is plastic, cannot be picked!
  downright lie! Trading on the word fresh.

• Juxtaposition of fresh strawberry – suggestive picture fresh by association.

• Use of complementary contrast – red/green draws attention, builds visual stimulus
  Green/red – compl. Contrast stimulates taste sensation.

• Glow around typo

• Recycled logo

• Or any other credible answer.

Question 2.2

QUESTION TYPE / COGNITIVE SKILLS: Recall (1 mark)

LO 2 AS 1.7   Present and effectively communicate a design solution.

LEVEL: Lower

One mark should be awarded for the use of any of the correct terms:
The diagram illustrates an ideal product life cycle, cradle to cradle, from extraction of raw material to the reuse of material at the end of the product's life. This is the concept of sustainable or cyclical designat its best. Consumer cycle. Production cycle

---

Question 2.3

QUESTION TYPE / COGNITIVE SKILLS: Identification (1 mark)

LO 3 AS 1.3   Discuss, explain and demonstrate the context and purpose of the products, images, signs and symbols used in design to convey overt and hidden messages that reinforce or challenge stereotypes, biases and prejudices, past and present.

LEVEL: Lower

---

1 mark for correct identification as an ideogram composed of pictograms, no explanation needed.

The image is an ideogram that uses simplified pictograms to illustrate lifecycle in a cyclical composition. It is not an infographic because it does not display quantitative information in a graphic format.

A **pictogram**, or **pictograph** is an ideogram that conveys its meaning through its pictorial resemblance to a physical object. Pictographs are often used in writing and graphic systems in which the characters are to considerable extent pictorial in appearance

Ideogram
An ideogram or ideograph (from Greek idea 'idea' + grafo 'to write') is a graphic symbol that represents an idea or concept. Some ideograms are comprehensible only by familiarity with prior convention; others convey their meaning through pictorial resemblance to a physical object, and thus may also be referred to as pictograms. Examples of ideograms include wayfinding signs, such as in airports and other environments where many people may not be familiar with the language of the place they are in, as well as Arabic numerals and formal languages

Infographic
Information graphics or infographics are graphic visual representations of information, data or knowledge. These graphics present complex information quickly and clearly, such as in signs, maps, journalism, technical writing, and education.

QUESTION 3   VISUAL ANALYSIS

<table>
<tr><td colspan="2">Question 3.1</td></tr>
<tr><td colspan="2">QUESTION TYPE/ COGNITIVE SKILLS: Application (3 marks)/Analysis (4 marks)/ Synthesis (3 marks)</td></tr>
<tr><td>LO 2 AS 1.8</td><td>Interpret, use and explain the choice of design elements, principles and materials in the final product, service or environment</td></tr>
<tr><td>LO 3 AS 1.2</td><td>Understand design theory and use design terminology correctly</td></tr>
<tr><td>LO 3 AS 1.5</td><td>Analyse, interpret and critically reflect on examples and relate them to their cultural, historical and contemporary contexts</td></tr>
<tr><td>LEVEL:</td><td>Lower (3 marks) Middle (4 marks) Higher (3 marks)</td></tr>
</table>

The use of design vocabulary is important in the answers to this question and a suitable level of design-speak should be evidenced in the answer. However, it is important that allowance be made for some variation in the analysis of the images. One mark to be awarded per substantiated observation/analysis for each image.

One mark needed for each 'correct' fact/ analysis/per example.
Use the following as a guideline; allowing credit for any other credible observations, analysis and interpretations.

	1987 – The World Commission on Environment and Development	2012 – The United Nations Conference on Sustainable Development (UNCSD) Rio
Typography	All letterforms are uppercase; kerning between forms minimised to create continuity between letters; typo blocked, justified.	Upper and lowercase lettering used. More personal less formal justified left, ragged right
Rhythm	Rhythm created by repetition of ovoid shapesmoving up the diagonal of leaves, both on the left and right of central leaf motif. Ovoid shapes reduce in size as the move up the picture plane. The implied upward movement with symmetrical balance of elements either side creates clear movement.	Circular rhythm created by repetition of acrhed lines, circular composition on either side of the steps. Repetition of arc in leaf and figure creates harmonious rhythm. Colour gradation
Closure	Closure between white ovoid forms and triangular extensions imply anthropomorphism. The extension on the right of the logo implies flags.	Closure of circle implies completion
Unity	Unification through analogous colour scheme; circular frame unites.	Unity through gradation of colour, red and blue repeated in rectangular composition
Symbolism	Contrast between organic circular forms and hard edged geometric line- symbolic Contrast between white and green, symbolic colours of punty and environment woman as custodian of nature.	Curved human shape in harmony with curved leaf implication of an interdependence, steps symbolize actions and strategies – two halves of a whole red symbolic of blood, blue water, green plants and nature.

<table>
<tr><td colspan="2">Question 3.2</td></tr>
<tr><td colspan="2">QUESTION TYPE/ COGNITIVE SKILLS: Analysis (2 marks)/ Synthesis (2 marks)</td></tr>
<tr><td>LO 2 AS 1.8</td><td>Interpret, use and explain the choice of design elements, principles an materials in the final product, service or environment</td></tr>
<tr><td>LO 3 AS 1.2</td><td>Understand design theory and use design terminology correctly</td></tr>
<tr><td>LO 3 AS 1.5</td><td>Analyse, interpret and critically reflect on examples and relate them to their cultural, historical and contemporary contexts</td></tr>
<tr><td>LEVEL:</td><td>Middle (2marks)/ Higher (2 marks)</td></tr>
</table>

This question requires that candidates can analyse the products in terms of aesthetics and functionality by relating the use of materials to structural purpose, function of the product and also to the aesthetic appeal. One mark should be awarded per substantiated fact. No marks to be awarded for listing of material, as fact was given on addendum sheet. (4 marks total)

Shigeru Ban – Cezanne in Provence festival in Aix-en-Provence, France
Cardboard rolls, recycled or reclaimed have great strength. Stiff, rigid forms create beam-like structural supports used in a triangulated construction to create a geodesic formation. The result is a lattice-like structure that fits it with the surroundings (tree-like), while providing the support for a covering.

Tord Boontje – Come Rain, Come Shine chandelier
The chandelier is constructed using indigenous skills of crocheting and weaving ribbon and textiles over a metal framework. The soft textiles are easily pliant and fit tightly over the framework. The soft textiles are diaphonous, acting as a diffuser for light, adding visual excitement through shadows and patterns of light. The overall effect is feminine and sensual, inviting touch for interiors

Kitae Pak Dew Bank water bottle
This water container is made of stainless steel so that it doesn't rust and is hygenic to use. The smooth finish enables easy, water run-off. The steel has groovesin the dome-like shape, which creates channels that lead the water into the receptacle at the bottom. Plastic stopper elastic and pliant to fit tightly into hole.

Fernanado and Humbert Campana – California roll chair – recycled plastic
This recycled plastic chair uses molten plastic, fused with heat to create circular coils The plastic is shock absorbent, is elastic so that it supports body weight,moves easily, easily cleaned. The plastic also comes in bright, attractive colours.

[14]

QUESTION 4   TERMINOLOGY

<div style="border:1px solid">

Question 4.1

Question 4.1.1

QUESTION TYPE / COGNITIVE SKILLS: Application (2 marks) Sythesis (2 marks)

LO 3 AS 1.2	**Understand design theory and use design terminology correctly.**
LO 3 AS 1.4	**Investigate, reflect on and interpret information from a variety of sources that show global influences in shaping the development of design**
LO 3 AS 2.1	**Demonstrate an understanding of the ways in which design can be used to reinforce or challenge social, cultural, environmental and ethical issues.**
LO 3 AS 2.2	**Demonstrate an understanding of the designer's responsibilities in relation to environmental issues and sustainable design**
LEVEL:	**Middle (2 marks) Higher (2 marks)**

</div>

The correct answer requires that the candidate understands the scaffolded nature of D4S, in that it integrates and builds on many of the earlier environmental movements, but is INCLUSIVE, HOLISTIC and is driven by SYSTEMS THEORY. The correct answer should substantiate D4S with at least 4 marks.

One mark/substantiated fact.

D4S is a sophisticated understanding of the interrelated nature of design production, having far – reaching implications beyond environmental concerns. Social structures, cultural practices and norms and the demands of economic empowerment are all considerations within sustainable design.

A model answer must explain the complex definition of D4S, referring to:
- cyclical nature, systems theory
- preservation of resources for future use,
- recognition of social, cultural, economic and environmental relationships, concept of the triple bottom line.
- Differentiation from eco, green and organic movements in that the relational concepts are reinforced- not only environmental.

D4S is design that meets the needs of the present generation without compromising that of future generations. It recognises the complex relationship between social, cultural, business and environmental contexts. D4S is attempting to link *environmental issues with the social and economic* factors related to quality of life and adopts a cyclical/closed loop production. Over the past years the terms *sustainable design* and *design for sustainability* became more used, including the triple bottom line (people, planet and profit/ecology, ethics and economics). The environmental challenge for D4S is to design products that minimise environmental and impacts during the entire product life-cycle, not just during production.
This emphasis on the distant future can differentiate sustainable design from green design. Whereas green design addresses many of the same characteristics as sustainable design, it may also emphasise near-term impacts such as indoor environmental quality, operation and maintenance features, and meeting current client needs.

In ecology the word sustainable describes how biological systems remain diverse and productive over time. For humans it is the potential for long-term maintenance of wellbeing, which in turn depends on the wellbeing of the natural world and the responsible use of natural resources.
Sustainable products reduce the impact on the environment by using responsibly-sourced products– those that are either completely renewable or sustainably harvested. A sustainably harvested source material is gathered in a way that doesn't mar the surrounding area, pollute the air, or permanently reduce the supply.

Question 4.1.2

QUESTION TYPE / COGNITIVE SKILLS: Comprehension (1 mark) Analysis (1 mark)

LO 3 AS 1.2   **Understand design theory and use design terminology correctly.**

LEVEL: **Lower (1 marks) Middle (1 marks)**

---

2 marks to be awarded for correct explanation of ONE other terms.
Use the following as guidelines:

Green design

Green design is an umbrella term describing the various techniques used in prioritising environmental considerations through the various design stages of a product or system, with the objective of conserving or minimising any damage to the environment. Green design involves component reuse or materials recycling. Green is a common metaphor referring to environmental association based on the shared secondary colour of many plants. It is often used to associate products, organisations, political parties, or policies with environmentally sensitivity. Green design' largely deals with single *environmental issues* – typically recycling, energy efficiency or design for durability. Green' or 'eco' design is the practice of reducing or eliminating environmental impacts of design, whereas sustainable design is concerned with the environment, but also with social and economic issues in a long-term agenda.

Ecodesign

Utilising least toxic materials and manufacturing processes, minimising or designing away the extraneous and designing for durability and longevity. Eco design may use bi-products of industry, reducing the amount of waste being dumped in landfill, or may harness new sustainable materials or production techniques e.g. fabric made from recycled PET plastic bottles or bamboo textiles. Ecodesign adopts a *lifecycle approach* and environmental impact is considered across the product's life, from material extraction through to eventual disposal, cleaner production processes expanded to include transport logistics, end-of-life collection.

Question 4.2

QUESTION TYPE/ COGNITIVE SKILLS: Comprehension (10 marks)

LO 3 AS 1.2   Understand design theory and use design terminology correctly.

LEVEL: Lower (10 marks)

---

2 marks to be awarded per correct answer.

4.2.1 **vernacular**
The standard native language/visual language of a country or locality. The term refers to a language, be it spoken or visual, that represents a certain culture. It can include specific terms, slang, or patterns, colours, use of images/forms. Relating to or expressed in the native language or dialect. Of or being an indigenous building style using local materials and traditional methods of construction and ornament, especially as distinguished from academic or historical architectural styles.

4.2.2 **intellectual property**
Patent: A patent is an exclusive right granted for an invention, which is a product or a process that provides a new way of doing something, or offers a new technical solution to a problem. A patent provides protection for the invention to the owner of the patent for a limited period, generally 20 years. Trademark: A trademark or brand-name is a distinctive sign which identifies certain goods or services as those produced or provided by a specific person or enterprise. The period of protection for a trademark varies, but can generally be renewed indefinitely.

4.2.3 **geoculture**
The ideology of the capitalist world-systemwhere the dominant values are individualism and consumption.

4.2.4 **biodegradable**
Characteristic of a material that can be broken down into simpler substances (elements and compounds) by bacteria and fungi,changing the chemical makeup and physical appearance of materials. Final elements are non-toxic and integrate with natural world.

4.2.5 **cradle to cradle**
A material use cycle that seeks to eliminate waste and/or and virgin resource extraction through the creation of closed/continuous loops. Cradle-to-Cradle traces a material from the time it is extracted to the point at which it is recycled/reclaimed.

4.2.6 **post-consumer waste**
Post-consumer waste is a waste type produced by the end consumer of a material stream; that is, where the waste-producing use did not involve the production of another product. Quite commonly, it is simply the garbage that individuals routinely discard, either in a waste receptacle or a dump, or by littering, incinerating, pouring down the drain, or washing into the gutter. Much of post-consumer waste is created by packaging, fashion trends and deliberate built-in obsolescence.

4.2.7 **bioplastics**
Plastics derived from renewable biomass sources, such as vegetable oil or cornstarch. Bioplastics are used in the creation of many modern products like tractors, water bottles, and takeaway cutlery.

4.2.8 **branding**
Branding refers to the identity that companies create through the use of corporate graphics, advertisementsand so on. A brand is the expression of a company's personality, its intangible values and associations.

4.2.9 **green collar jobs**
Jobs created by investments and sustainable practices. Many skilled and unskilled jobs traditionally referred to as 'blue-collar' jobs may be created and supported through the expansion of incentives and demand for sustainable building and installation of sustainable systems (such as solar panels, 'green' remodeling, and gray-water systems)in the residential, commercial, and government markets. These 'green-collar' jobs may employ those who are often left-out of the tech boom cycles or do not have the skills, experience, or education to work in 'white-collar' jobs. 'Green-collar' jobs fill a variety of community and individual needs with rewarding, well-paying work that is sustainable and local (and aren't easily outsourced overseas).

4.2.10 **sub culture**

In sociology, anthropology and cultural studies, a **subculture** is a group of people with a culture (whether distinct or hidden) which differentiates them from the larger culture to which they belong. Subcultures have been seen as a minority style ... and interpreted with subversive values'. Some anthropologists/sociologists argue that a subculture is a subversion to normalcy and can be perceived as negative due to their nature of criticism to the dominant societal standard. Others argue that subcultures bring together like-minded individuals who feel neglected by societal standards and allow them to develop a sense of identity.

(5 × 2) marks each
[10]

50 marks

SECTION B   DESIGN IN CONTEXT – HISTORICAL   50 marks

Answer TWO QUESTIONS from this section in essay format. (Suggested length of essays – two and a half to three pages.)

Make sure that you address the question directly and structure your essay as follows:

- an introduction, in which you discuss the context of the question;
- a main body where you refer to relevant styles, designers and their works that are pertinent to your answer;
- and a conclusion.

The underlying rubric will be used to mark your essays.

Context	Appropriate contextual relevance to the answer	5
Structure	Logical flow of intro, body, conclusion	3
Content	Depth of factual discussion and reference to designers and works that are pertinent to the answer	7
Visual analysis	Detailed discussion of strategic works	7
Terminology	Relevant use and level of 'design-speak'	3
	Total marks	25

You may not repeat the same information in different essays.

A GENERAL NOTE ON ESSAYS:

This section of the paper examines the learner's understanding of design history, and NOT history. This distinction must be made clear. Answers to essay questions should contain a discussion of actual designs produced by specific designers, and should not rely merely on the historical factors surrounding the products. While the socio-cultural, economic, technological and environmental circumstances certainly impact greatly on the designed products, learners must be able to directly apply such contextual information to ACTUAL designs, and be able to discuss the construction of the designed product/s and design factors surrounding them. Reference to the biographical details of designers are mostly irrelevant, unless they apply to the designs themselves.

As a general rule all essay questions should be structured into an introduction, main body and a conclusion.

- The introduction should set the context and clearly respond to/ address the issues being asked in the question. Students cannot merely write a rehearsed essay on a movement, and must respond to the specific question directly. Any extraneous facts outside of the reference of the question should be ignored.

- The main body of the text should also refer directly to the specific question, using appropriate examples of designers and their works to substantiate the answer.
  Certain design products crucial to the argument should be discussed in detail, using analysis. The argument/discourse should flow logically and should be written in full, logical sentences with no point-form listing of facts or headings, unless the question specifically asks for them. The use of correct design terms, language and references will be an indicator of the quality of the answers. No marks should be awarded for unvalidated value judgements.

- The essay should have an appropriate and relevant conclusion.
  In an essay, marks should be awarded for a maximum of the names of 4 designers/ 3 works each to avoid listing (one mark per correctly spelt designer/design product). If other works are discussed in detail, marks should be awarded for the discussion, but not for the name of the work.

Assessment of the essays should take into account the following breakdown:

Section of essay	Marks	Criteria	Cognitive skills	Level	Marks
Structure	3	Introduction, body and conclusion	Evaluate Synthesis	Higher order Higher order	1 2
Context	5	Understanding of contextual background to the question	Synthesis Evaluation	Higher order Higher order	3 2
Content	7	Depth of discussion, body of works, accuracy of information	Comprehension Application Analysis	Lower order Middle order Higher order	5 1 1
Visual analysis	7	Visual analysis, discussion of actual works	Comprehension Application Analysis	Lower order Middle order Higher order	3 2 2
Terminology	3	Design –speak , terminology	Comprehension	Lower order	3
	25				25

Q5	WEIGHTING %	MARKS
Higher order	44%	11
Middle order	12%	3
Lower order	44%	11

The following detailed rubric with level descriptors should be used to assist in the marking of questions in this section:

LEVEL	Section of essay	Criteria	Marks	Total
7	Context (5)	Clear response to question, appropriate contextual framework relevant to the answer, shows insight well above expected levels of cognitive thinking, new viewpoints , shows insight into higher cognitive thinking	4 or 5/5	23 – 25
	Content/Facts (7)	Substantial depth of factual discussion, provided all the important, relevant points in a factually correct, accurate discussion	7/7	
	Analysis (7)	Discussion of works reveal an excellent understanding of analysis of works	7/7	
	Structure (3)	Intro and conclusion directly address question, argument flows logically Well structured, sound, sensible writing	2 or 3/3	
	Terminology (3)	Excellent use of appropriate terminology / vocabulary	2 or 3/3	
6	Context (5)	Clear, accurate understanding of the topic, good insights expressed	4 or 5/5	20 – 22
	Content/Facts (7)	Substantial depth of factual discussion, provided most of the critical points names of designers and works, factually correct, spelt correctly	6 or 7/7	
	Analysis (7)	Good and substantial analysis of works	6 or 7/7	
	Structure (3)	Well structured essay, intro and conclusion directly address question	2 or 3/3	
	Terminology (3)	Good use of appropriate terminology / vocabulary	2 or 3/3	
5	Context (5)	A fair response to the question, some good insight	4 or 5/5	16 – 19
	Content/Facts (7)	Mostly factually correct; enough relevant and correct facts that are substantiated with evidence in works, names of designers and works spelt correctly,	4 or 4/7	
	Analysis (7)	Enough relevant works discussed and some good analysis	4 or 5/7	
	Structure (3)	Structured essay with intro and conclusion	2 or 3/3	
	Terminology (3)	Use of adequate appropriate terminology	2 or 3/3	
4	Context (5)	A n adequate response to the question, but lack of contextual clarity, got lost focus in places; but manages to mention some important facts	3 or 4/5	12 – 15
	Content/Facts (7)	Provided some good factual content but missed some critical focus in places; some factual omissions;	3 or 4/7	
	Analysis (7)	Enough relevant works discussed and some analysis	3 or 4/7	
	Structure (3)	Structured essay with intro and conclusion	2 or 3/3	
	Terminology (3)	Use of adequate appropriate terminology	1 or 2/3	
3	Context (5)	A confused response, gets lost in places and loses focus	1 or 2/5	8 – 11
	Content/Facts (7)	Provided some good facts but not always relevant; factual omissions or errors	3 or 4/7	
	Analysis (7)	Some limited analysis of works	2 or 3/7	
	Structure (3)	Some structure, fragmented discussion	1 or 2/3	
	Terminology (3)	Some use of terminology	1 or 2/3	
2	Context (5)	Poor understanding of context	1 or 0/5	5 – 7
	Content/Facts (7)	Large gaps in knowledge; repetition and irrelevance present	1 or 2/7	
	Analysis (7)	Insubstantial analysis of works	1 or 2/7	
	Structure (3)	Poorly structured, no introduction or conclusion	1 or 0/3	
	Terminology (3)	Basic use of terminology	1 or 0/3	

1	Context (5)	Little evidence of contextual understanding	1 or 0/5	0 – 4
	Content/Facts (7)	Large gaps in knowledge; little factual information	1 or 0/7	
	Analysis (7)	Does not refer to analysis of works	1 or 0/7	
	Structure (3)	Very poorly written, unstructured, no intro or conclusion	1 or 0/3	
	Terminology (3)	Insubstantial use of terminology	1 or 0/3	

QUESTION 5

QUESTION TYPE/ COGNITIVE SKILLS: Comprehension, Application, Analysis, Synthesis, Evaluation (25 marks)

LO 2 AS 1.8   **Interpret, use and explain the choice of design elements, principles and materials in the final product, service or environment.**
LO 3 AS 1.1   **Make value judgments informed by a clear understanding of design.**
LO 3 AS 1.2   **Understand design theory and use design terminology correctly**
LO 3 AS 1.3   **Discuss, explain and demonstrate the context and purpose of the products, images, signs and symbols used in design to convey overt and hidden messages that reinforce or challenge stereotypes, biases and prejudices, past and present.**
LO 3 AS 1.4   **Investigate, reflect on and interpret information from a variety of sources that show global influences in shaping the development of design.**
LO 3 AS 1.5   **Analyse, interpret and critically reflect on examples and relate them to their cultural, historical and contemporary contexts.**

LEVEL: **Higher (11 marks), Middle (3 marks), Lower (11 marks)**

[25]

The answers to this question will vary substantially, dependant on interpretation. However, all should refer quite clearly to the specific question, tracking the theme of **waste, excess and planned obsolescence** into account. Possible movements that encourage a culture of excess include most design styles since 1945:

- The late International style and Consumer movement into the 1950's with Raymond Loewy and built-in obsolescence which continues into subsequent styles. In fact until the present!
- Pop-Luxe, specifically with regards to the use of plastics and a throw-away aesthetic, popular youth culture.
- The Anti-Design Movement, which, although critical of the materialistic culture, used a parody of the very movements they were rejecting, to promote their ideological aims.
- Memphis was fun, fashion, ephemeral, bright melamine plastic and meant to be a fad.
- The Hi-Tech movement also created an extensive ecological hazard with their creation of electronic advancement and technological creation of e-waste, which is highly bio-hazardous. Technotronic revolution, Dieter Rams and ABS plastics and electronic goods.
- PoMo encouraged the extension of plastic into a wide range of kitsch, fashion products, faux textures, melamine, formica and so on.

Marks should be awarded according to the essay rubric outlined at the beginning of this section for marking the essay.
Facts must be backed up with reference to and discussion of **specific design products** and/or processes.
TWO actual designs must be discussed in detail. If only one work is discussed, a maximum of 4 marks can be awarded for facts and visual analysis.

Example: Pop-Luxe movement

60's worldwide economic prosperity led to an overall sense of optimism that infused artistic sensibilities. Pop was coined in the 1950s to the emergence of popular culture. The influence of television, radio and advertising led to mass consumerism on a wide scale. Pop celebrates the popular consumer culture in America.

The teenager became one of the most important consumers. The design is also more youth-based and less serious when compared with the 'Good Design' of the 1950s. The desire was to express a youth culture in rebellion towards conservatism, the playful sub-culture revealed in Mary Quant's design of the 'miniskirt' and 'hot pants'. Youth identity and music culture became a main focus, and was reflected in patterns, motifs and materials like the designs of Panton working with op art psychedelia. Psychedelic wallpaper patterns frequently used in interiors and on furniture surfaces, for instance, in Panton's interior design for Der Spiegel's canteen. The red/orange highly saturated circles repeated all over the wall, floors and as the lighting detail, created an atmosphere of wild fun.

Pop departed from Modernism's safe, utilitarian mode of expression. A 'throw away' culture reflected Pop's rejection of the idea that designed objects needed to last forever, and introduced the idea of fashion and ephemerality. The concept of the 'throw-away' resulted from a reaction to tradition and durability. This was an 'age of affluence' – products were easily dispensable, expendable and gimmicky. Pop designers deliberately focused on a piece's disposability by using low-cost, flimsy materials. Characterised by such whimsical constructions as Peter Murdoch's disposable paper chair (1964), the furniture of the age was a cheap yet glamorous approach to contemporary design. Many surfaces of all products were brightly coloured, patterned, like the polka dots of Murdoch's chair.

The introduction of PVC in the mid 1960s was particularly suited to Pop Culture. With PVC new inflatable chairs, sofas, pillows appeared, even tables and lighting. Plastic and nylon fabrics in Mary Quant's fashion, the properties of plastic, a perfect example of 'use-it -today' and 'sling-it-tomorrow' ethos during the 1960s. Ease of mass production and development of consumerist style. Plastics were frequently used and tinted with colours of yellows, light blues, light greens, light purples and/or bold colours. Development of colour finishes and surfaces, development of plastics in Pop design. Verner Panton's S-chair, first mass-produced injection-moulded chair. ABS plastic, organic dounble parabolic curve for stability ... Eero Aarinen glob chair, pastilli chair, plastic blow chair by De Pas et al, Joe Columbo with his wide range of plastics like Universale chair.

The 'Blow Chair' (a blow-up lounge chair) by d'Urbino, Lomazzi and de Pas, 1967.
This Blow chair was cheap and could be discarded once popped. It parodied (made fun of) the idea of a solid, durable armchair by using see-through plastic. 'Techno-chic' made sculptural use of plastics. The chair is composed of simple inflated cylinders of PVC. This was used by the teen culture. Products were mass produced. Quality was not important, but quantity.

Memphis

1981 in Milan Italian Memphis group began as a spin-off from Studio Alchymia. A design collaborative led by Sottsass, Memphis was a reaction against the slick, black humourless design of the 1970's. It was a time of minimalism with such products as typewriters, buildings, cameras, cars and furniture all seeming to lack personality and individualism. Designers disagreed with and challenged conformist design approach. Tired of the stark, dull, basic black themes so common in traditional minimalist design, this group sought to break the rules with colour, shape, and true function, and managed to become enormously popular in the process. Sottsass and his collaborators longed to be liberated from the tyranny of smart, but soulless 'good taste' in design By glorying in the cheesiness of consumer culture, Memphis was 'quoting from suburbia,' as Sottsass put it. 'Form swallows function' Fred Baier 1981 Memphis Designers – Sottsass, De Lucchi, Bedine, Zandra Rhodes.

Their main aim was to reinvigorate the Radical Design movement, intended to develop a new creative approach to design. They drew inspiration from such movements as Art Deco and Pop Art, styles such as the 1950's Kitsch and futuristic themes. Critics challenged the non-conformist approach, called Memphis shocking, bright, polychrome, gaudy colours, plastic, vibrant, eccentric, ornamental, untasteful, eclectic influence from art deco and pop, kitsch and futuristic themes, historic forms, concepts in stark contrast to so called 'Good Design'.

Exhibited first in 1974 Milan, collection of home furnishings mainly clocks, lighting, furniture and ceramics. Experimented with unconventional materials, kitsch motifs, gaudy colours and prints. Eventually, Memphis style emerged, turning Modernist logic on its head with avant-garde and frivolous conceptions. Included in the Memphis collection was the Super Lamp; a metal semi-circle painted black with rainbow-coloured sockets to fit six uncovered light bulbs.
Other pieces of furniture and lights were made from industrial materials – printed glass, celluloids, fireflake finishes, neon tubes and zinc-plated sheet-metals – jazzed up with flamboyant colours and patterns, spangles and glitter. Ultrafragola mirror, superboxes and furniture for Poltranova,

Memphis annually introduced new furniture, lighting, textiles, ceramics, and glass objects in Milan from 1981 through the late 1980s. On September 18th, 1981, the House of Memphis displayed their work with their first show at the Arc '74 showroom in Milan. They had added journalist Barbara Radice to their team, to market their work and write press releases for the international media. The buzz over this new and innovative collection was huge, and the media immediately fell in love with Memphis.

Furniture made from flashy coloured plastic laminates emblazoned with kitsch geometric and leopard-skin patterns usually found in comic books and cheap cafes. Many pieces were covered in plastic laminate, which was a far cry from the standard minimalist design that was so popular at the time. Large, chunky, bright and functional pieces were presented to the press and public alike, taking the design world by storm. There was the Beverly cabinet, which featured hues of yellow and green with snakeskin print doors. The Carlton bookshelf was a marvel of creative design with its angled shelves and many bright colours. A sense of humour and incongruity is common – Sottsass uses a tilted shelf to provide a sense of humour and incongruity – seems here to contradict the purpose of a shelf as a horizontal surface.

It was conceived by the group to be a 'fad', which like all fashions would very quickly come to an end. In 1988 Sottsass dismantled the group.

QUESTION 6

QUESTION TYPE / COGNITIVE SKILLS: Comprehension, Application, Analysis, Synthesis, Evaluation (25 marks)

LO 2 AS 1.8	**Interpret, use and explain the choice of design elements, principles and materials in the final product, service or environment.**
LO 3 AS 1.1	**Make value judgments informed by a clear understanding of design.**
LO 3 AS 1.2	**Understand design theory and use design terminology correctly**
LO 3 AS 1.3	**Discuss, explain and demonstrate the context and purpose of the products, images, signs and symbols used in design to convey overt and hidden messages that reinforce or challenge stereotypes, biases and prejudices, past and present.**
LO 3 AS 1.4	**Investigate, reflect on and interpret information from a variety of sources that show global influences in shaping the development of design.**
LO 3 AS 1.5	**Analyse, interpret and critically reflect on examples and relate them to their cultural, historical and contemporary contexts.**
LEVEL:	**Higher (11 marks), Middle (3 marks), Lower (11 marks)**

[25]

The answers to this question will vary substantially. However, all should refer quite clearly to the concept of **environmental stewardship or sustainability contextually**. **Answers may only refer to examples after 1980**.

A model answer could include a discussion of:

- Paulo Soleri – Arcosanti Project (ongoing)
- Norman Foster
- Renzo Piano
- Designers and eco-materials – Campana brothers (recycling) Tord Boontje (TranSglass)
- Designers and alternative sources of energy – Yves Behar
- Any other well-known designers
- Accepted Heath Nash/Ryan Frank – internationally known

Facts should be substantiated, backed up with reference and discussion of a specific product and/or process. TWO actual designs must be discussed in detail. Discretion is required in the marking to allow for personal interpretation.

Use the rubrics suggested at the beginning of this section for marking the essay.

Example: Yves Behar and the Fuse Project

Behar incorporates environmental sustainability with social sustainability. Behar states: 'To create a sustainable future, design must be deeply in tune with human needs, deeply connected with emotional needs, deeply self-expressive. Human needs include a healthy environment, which means that the products have to be non-toxic as well as low-energy-consuming.

For Herman Miller, recently developed the LEAF light, a light that consumes 40% less energy than a compact fluorescent lightbulb. Behar designed both the light source and the light. The light includes the ability to switch from an efficient colder light to a warmer mood glow. Leaf is a sculptural-looking creation made of two slim torqued aluminum parts. The arm is anchored by a solid disk containing a PC board; atop it are controls similar to the iPod's touch wheel. Slide your finger along the edge one way and the light glows golden; slide it the other way and the lamp emits the sort of pure white light that graphic designers need to run colour tests. (In technical terms, it

goes from 5500 to 2500 Calvin on the heat spectrum.) The dimmer works the same way; and a tap at the centre, right on the backlit Herman Miller logo, turns the light on and off.

A grid of LEDs is fixed onto the head of the light. Heat--the number-one problem with using LED technology – is dissipated using a series of 'chimneys,' little holes that allow it to escape. A three-layer heat sink – backed by copper and aluminium – keeps the temperature below a manageable 60 degrees Celsius.

LEAF is about giving a full spectrum of choices to express light's magical and sensory variations. The human senses are engaged through a touch-sensitive interface allowing infinite choices of the light effect: from a cool colour spectrum for an efficient work light to a warm colour for a reflective mood, as well as the continuous adjustment from bright to dark. This poetic interaction follows a principle of 'technology with humanity' and is achieved through the use of compact LEDs rather than halogen or fluorescent bulbs.

Unlike other LEDs that burn hot and require complicated cooling systems, LEAF stays cool to the touch through the use of a patented heat distribution system that we developed with an engineering group, achieved through an engineered heat sink and the stamp-formed, sculptural aluminium blade that allows heat to be dispersed and released without the use of a cooling fan. This literally allows you to grab the light without any worry of burning your hand.

Environmentally speaking, LEAF's sculptural form was created to minimise material use and mechanical complexities while maximising light options. Its LEDs consume between eight and nine watts of power, carry a 60 000-hour lifespan at full power (about seven years in continuous use), and cut energy use by 40% when compared with standard CFLs.

The steel components of LEAF contain approximately 25% recycled content and are 100% recyclable as a technical nutrient. All die-cast aluminium components are made from 100% recycled material. Aluminium components can be segregated and returned to the recycling stream as a technical nutrient. Plastic components are identified with an ASTM recycling code whenever possible, to aid in returning these materials to the recycling stream. LEAF's packaging materials include corrugated cardboard and a polyethylene plastic bag to protect it from soiling or dust. Each of these materials is part of a closed-loop recycling system.

Scoot hydrogen-powered transport
Scoot was a concept piece designed with Johan Liden to address the need for urbanites to get around town without breaking a sweat – or the environment. Scoot's hydrogen fuel cell motor, a form of energy emergent in northern Europe, propels the user along city streets without harming the environment. The hydrogen fuel cell ensures that the Scoot does not add to city smog.

The Scoot folds into a compact and portable object in seconds for easy carrying or packing on buses and subways. Its folding mechanism – collapsible handle bar that turns into the product's carrying handle and fenders that cover the wheels when the Scoot is folded – propose a total solution to make the Scoot a real commuter product. The elegant carbon-fiber-and-aluminum Scoot combines a wide, scooped-out footrest with rugged, over-size wheels. Scoot folds in half so that the tires and grimy underside are neatly tucked away. And with a hydrogen fuel-cell engine, you will leave the slackers in the dust.

The Scoot was designed as an elegant product – in contrast to the youth-market's push scooters, the aesthetics of the Scoot suit a professional user. The design is an expression of both efficiency and modernist simplicity, bringing product design qualities to a new product category that resides at the intersection of the car, train or subway and one's destination.

Yves Behar OLPC

The One Laptop Per Child XO laptop is a joint project by designer Yves Behar's Fuseproject and MIT's Nicholas Negroponte. Fuseproject, founded in 1999 by Yves Behar, develops cohesive brand + product experiences and together with Negroponte, Behar founded the OLPC Foundation. The One Laptop Per Child Association, Inc. (OLPC) is a U.S. non-profit organisation set up to oversee the creation of an affordable educational device for use in the developing world.

To create educational opportunities for the world's poorest children by providing each child with a rugged, low-cost, low-power, connected laptop with content and software designed for collaborative, joyful, self-empowered learning. When children have access to this type of tool they get engaged in their own education. They learn, share, create, and collaborate. They become connected to each other, to the world and to a brighter future.

Yves Behar is the chief designer of the present XO shell. Now more than one million laptops have been distributed to children around the world to help further the mission of providing education and access to information for all ... like in Uruguay where every public school child between 6 and 12 years old has one.

The XO-1, previously known as the '$100 Laptop' or 'Children's Machine', is an inexpensive laptop computer designed to be distributed to children in developing countries around the world, to provide them with access to knowledge, and opportunities to 'explore, experiment and express themselves' (constructionist learning). This is a small machine with a big mission. The XO is a potent learning tool designed and built especially for children in developing countries, living in some of the most remote environments. It's about the size of a small textbook.

It has built-in wireless and a unique screen that is readable under direct sunlight for children who go to school outdoors. It's extremely durable, brilliantly functional, energy-efficient, and fun. The XO-1 is designed to be low-cost, small, durable, and efficient. It is shipped with a slimmed-down hardware and customised software that is intended to help young children collaborate.
The rugged, low-power computers use flash memory instead of a hard drive, run a Fedora-based operating system and use the Sugar user interface. Mobile ad-hoc networking based on the 802.11s wireless mesh network protocol allows students to collaborate on activities and to share Internet access from one connection.

The wireless networking has much greater range than typical consumer laptops. The XO-1 has also been designed to be lower cost and much longer lived than typical laptops.
The XO-1 includes a video camera, a microphone, long-range **Wi-Fi**, and a hybrid **stylus**/touch pad. In addition to a standard plug-in power supply, human power and solar power sources are available, allowing operation far from a commercial power grid.

The laptops include an anti-theft system which can, optionally, require each laptop to periodically make contact with a server to renew its cryptographic lease token. If the cryptographic lease expires before the server is contacted, the laptop will be locked until a new token is provided.

While the distribution of OLPC XO continues, today Forbes is presenting the XO-3. Our new design features an all plastic tablet screen which is semi-flexible and extremely durable (compared to current glass screens which crack upon impact), and just like the original XO, the display can be optimised in both transmissive and reflective modes for indoor and outdoor lighting conditions.

The XO-3 supports many use scenarios to fulfill kids' learning needs: from horizontal book mode to portrait reading mode, to multi-touch, so many hands can play and learn together on the same screen, to a full-touch keyboard and a back facing camera. More OLPC's, more smiles ...

The shell of the laptop is resistant to dirt and moisture, and is constructed with 2 mm thick plastic (50% thicker than typical laptops). It contains a pivoting, reversible display, movable rubber WiFi antennas, and a sealed rubber-membrane keyboard.

Designing with the user in mind binds the emotional value and reduces the obsolescence of an object. Yves Béhar explains that usefulness and functionality are not the same thing. 'Design's purpose is not only to show us the future, but to bring us the future,' is another of his mantras.

Now with his sophisticated solution to the controversial $100 laptop challenge and his ingenious LEAF Lamp developed for Herman Miller, Béhar's creations are leading a new approach to sustainable informed design for the masses. The One Laptop Per Child (OLPC) project is not directly an environmentally conscious design, more addressing humanitarian elements. Nonetheless, the design has taken the resource challenges of its target market into account.

'When people ask if design isn't a bit of luxury for a product destined for the developing world, I explain that, typically, technology products for the developing world are hand-me-down versions of their Western equivalents – lesser technologies of lesser quality. Additionally, those products are not designed with their specific users or surrounding conditions in mind. Low-cost products are literally 'cheap' (low-tech and low quality).

This is a paradigm the team at OLPC and MIT wanted to change, by instead creating a high-touch and high-tech product and experience. Upon reviewing a prototype of the OLPC, Bono spoke of the very real meaning OLPC will have for the kids – DIGNITY and pride to now possess their own education, communication and entertainment tool.

I see a bigger role for design in the future, and the opportunity for designers to be true participants in both for-profit businesses and non-profit causes. Humanistic design must tap into the 'giving' element of our profession. It must be deeply in tune with the need to create a sustainable future, and deeply connected with emotional needs, deeply self-expressive.

I often say that 'if design is not ethical, it cannot be beautiful'. Design that does not consider the effect of the product at the source or at the consumer interface is hard to justify, especially now that information is available to all. But design must also be useful. Usefulness can be about function; but inspiring, resting the soul or creating a sense of wonder and intelligence around one's life, is a form of usefulness that goes beyond function.

One Laptop per Child is not about a machine, it's about a movement.

QUESTION 7

QUESTION TYPE / COGNITIVE SKILLS: Comprehension, Application, Analysis, Synthesis, Evaluation (25 marks)

LO 2 AS 1.8	**Interpret, use and explain the choice of design elements, principles and materials in the final product, service or environment.**
LO 3 AS 1.1	**Make value judgments informed by a clear understanding of design.**
LO 3 AS 1.2	**Understand design theory and use design terminology correctly**
LO 3 AS1.3	**Discuss, explain and demonstrate the context and purpose of the products, images, signs and symbols used in design to convey overt and hidden messages that reinforce or challenge stereotypes, biases and prejudices, past and present.**
LO 3 AS 1.4	**Investigate, reflect on and interpret information from a variety of sources that show global influences in shaping the development of design.**
LO 3 AS 1.5	**Analyse, interpret and critically reflect on examples and relate them to their cultural, historical and contemporary contexts.**
LEVEL:	**Higher (11 marks), Middle (3 marks), Lower (11 marks)**

[25]

The answer to this essay should address the **issues of rebellion** quite clearly. Mark should be awarded according to the essay rubric, backed up with reference and discussion of a specific product and/or process. **TWO actual designs** must be discussed in detail.

Use the rubrics suggested at the beginning of this section for marking the essay.

The Anti-Design Movement
The Anti-Design Movement (1965 – 1976) was essentially a rebellion against the interdisciplinary theories of modernism and German functionalism. An anti-design movement energised Italian design throughout the 1960s and '70s. Such radical design groups as Archizoom, Superstudio, and Studio Alchimia were established in opposition to the pure functionalism of the International Style.

The Pop-cultures and Anti-cultures were emerging and the market focused on this new, youthful energy. During the mid-1960s, Italian designers marked a path for deliciously frivolous furniture. Bean-bag chairs, inflatable furniture, and even a sofa fashioned in the shape of a giant pair of lipsticked lips (based on Salvador Dali's famous surrealist painting) emerged from the innovative Italian scene.

With new upholstery techniques there was a revolution in the manufacture of padded sofas, pouffes and easy chairs. The introduction of PVC in the mid 1960s was particularly suited to the Pop Culture. With PVC new inflatable chairs, sofas, pillows appeared, even tables and lighting. They were a now a medium of sculpture. Legendary designer Gaetano Pesce's 'UP' sofa in 1969 and his 'Donna' chair symbolising feminity in 1968 were in themselves works of art. They also happened to be functional and comfortable to sit on!

Designer Pedro Freideberg introduced his now-infamous Hand Chair in 1963 – in a bizarre twist, an Italian firm created the Joe Lounge Chair, a tribute to Joe Dimaggio in the shape of a catcher's mitt.

Pop furniture's tendency to use bright colours and kitschy themes encouraged designers to expand furniture's possible playfulness.

Superstudio strong roots in social reform – the Italian radical architectural design group, founded in 1966 in Florence, Italy by Natalini and Toraldo di Francia which rebelled against consumerism. Natalini wrote in 1971 '… if design is merely an inducement to consume, then we must reject design; if architecture is merely the codifying of bourgeois model of ownership and society, then

we must reject architecture; if architecture and town planning is merely the formalisation of present unjust social divisions, then we must reject town planning and its cities … until all design activities are aimed towards meeting primary needs. Until then, design must disappear. We can live without architecture …'. They established three categories of future research: 'architecture of the monument'; the 'architecture of the image'; and 'tecnomorphic architecture'. Many of their projects were originally published in the magazine Casabella, and ranged from fiction, to storyboard illustration, to photomontage. The Continuous Monument: An Architectural Model for Total Urbanisation, 1969 Twelve Cautionary Tales for Christmas: Premonitions of the Mystical Rebirth of Urbanism.

Studio Alchymia's aim was to reform design. It was founded in Milan as a gallery by the architect Alessandro Guerriero. Guerriero offered designers space to exhibit their prototypes, thus freeing them from the constrains of industry. Such radical design groups as Archizoom, Superstudio, and Studio Alchimia were established in opposition to the pure functionalism of the International Style. Alessandro Mendini saw it as a studio for creating one-off, radical pieces and events for exhibition to attract public attention: he was interested in criticising the design establishment. 1978 Collaborates with Alessandro Mendini and Andrea Branzi on Studio Alchymia's exhibition of 'new design' furniture at Milan Furniture Fair. Its forms included kitsch references and motifs recalling imagery from the 1950s – an obvious source in the collection' aims to amalgamate design and everyday life and culture. Mendini became the studio's key spokesman in the 1980s and he remained preoccupied with the ultimate inability of design to change society. Many of the leaders of the Studio Craft Movement consciously abandoned the creation of useful objects in favor of nonfunctional art.

Punk has strong roots in rebellion –the beginnings of punk are found in England's depressed economic and sociopolitical conditions of the mid-1970s. Punk rock bands eschewed the perceived excesses of mainstream 1970s rock, and created fast, hard music, typically with short songs, stripped-down instrumentation, and often political or nihilistic lyrics.

The associated punk subculture expresses youthful rebellion and is characterised by distinctive clothing styles, a variety of anti-authoritarian ideologies, and a DIY (do it yourself) attitude. Punk was as much a youthful reaction against older generations, considered oppressive and outdated, as a product of the newly recognised and influential youth culture. Punk was as much a music style as it was a fashion style, created by the British designer Vivienne Westwood, and her rock band manager boyfriend, Malcolm McLaren in their shop called SEX on King's Road London. Punk included elements of irony, absurdist humour and genuine suspicion of mainstream culture and values. The DIY (Do it Yourself) aesthetic of punk created a thriving underground press. Westwood and Maclaren were fiercely anti-establishment, anti-hippy, and brilliantly creative, Westwood is truly the first punk rocker.

Shrewd entrepreneurs, Westwood and McLaren were instrumental in defining and marketing the punk look at the precise moment that it was taking the streets of London by storm. Her confrontational designs were informed by a fascination with punk, bondage, and fetishism. Using rubber, zippers, studs, buckles, leather, and other unconventional materials, Westwood's designs promoted an aggressive sexuality.

The 'punk style' included BDSM fashion, bondage gear, safety pins, razor blades, bicycle or lavatory chains on clothing and spiked dog collars that were used as jewellery, as well as outrageous make-up and hair. The punk phenomenon expressed a rejection of prevailing values in ways that extended beyond the music. Punk expressed anger at the 'establishment', by nihilistic song lyrics, t-shirt slogans on self-styled ripped T-shirts bearing slogans. British punk fashion deliberately outraged propriety with the highly theatrical use of cosmetics and hairstyles, clothing typically adapted or mutilated existing objects for artistic effect: pants and shirts were cut, torn, or

wrapped with tape, and written on with marker or defaced with paint; safety pins and razor blades were used as jewellery.

Jamie Reid is a British artist and anarchist with connections to the situationist movement. His work, featuring letters cut from newspaper headlines in the style of a ransom note came close to defining the image of punk rock, particularly in the UK. His best known works include the Sex Pistols albums.

Jamie Reid created the cover art for the Pistol's first single God Save The Queen. Released in 1977 to coincide with the Queen's Silver Jubilee Celebrations. In March 13, 2001, an English panel of judges composed of editors and artists gave their highest honour to the controversial artwork of Jamie Reid, calling it the 'best record cover ever produced.'

Punk culture was both a product and a victim of late capitalism. As the most quickly digested of all previous youth cultures, it came to fruition and fell victim to mass marketing in less than three years.

PoMo
The last quarter of the twentieth century saw a surge of unbridled consumerism manifested in a number of diverse, often contradictory, design currents. Some architects and designers chose to conform to the previously established intellectual strictures of modernism, seeking expression through form rather than applied ornament.

Others, inspired by texts that denounced the cool aridity of modernism—including Robert Venturi's *Learning from Las Vegas* (1972), *Collage City* (1973) by Colin Rowe and Fred Koetter, and Rem Koolhaas' *Delirious New York* (1978)—developed a postmodernism that celebrated the vernacular and reinterpreted motifs of the past. Still others used the design of objects as a means to make countercultural social or political statements.

Postmodernism is difficult to define, because to define it would violate the postmodernist's premise that no definite terms, boundaries, or absolute truths exist. In this article, the term 'postmodernism' will remain vague, since those who claim to be postmodernists have varying beliefs and opinions on issues. To the postmodernist, the Western world society is an outdated lifestyle disguised under impersonal and faceless bureaucracies. The postmodernist endlessly debates the modernist about the Western society needing to move beyond their primitiveness of ancient traditional thought and practices. Their concerns, for example, often include building and using weapons of mass destruction, encouraging an unlimited amount of consumerism thus fostering a wasteful throwaway society at the sacrifice of the earth's resources and environment, while at the same time not serving the fair and equitable socioeconomic needs of the populace.

Postmodernists believe that the West's claims of freedom and prosperity continue to be nothing more than empty promises and have not met the needs of humanity. They believe that truth is relative and truth is up to each individual to determine for himself. Most believe nationalism builds walls, makes enemies, and destroys 'Mother Earth,' while capitalism creates a 'have and have not' society, and religion causes moral friction and division among people.

Postmodernists are typically atheistic or agnostic while some prefer to follow eastern religion thoughts and practices. Many are naturalist including humanitarians, environmentalists, and philosophers. They challenge the core religious and capitalistic values of the Western world and seek change for a new age of liberty within a global community.

From the late 1970s through the 1980s, many architects and designers, reacting against the dictates of modernism, looked to Neoclassical forms and materials for inspiration. Visual references

derived from art and architecture superseded functionalism and overt historical references and decoration transformed architecture, furniture, tabletop accessories, even jewelry, into objects of fantasy. Well-known architects Michael Graves, Robert Venturi, and others accepted commissions to design products for such diverse international companies as Knoll, Alessi, and Formica.

A reaction to the sometimes wasteful mass-consumerism of the 60s resulted in an emphasis on reducing waste. The movement referred back to older styles in an eclectic and ironic (mocking) manner. Bauhaus has been humanised, e.g. Graves' Bauhaus-like triangular kettle with a bird whistle.

Functional objects have a playful, hip (absurd) use of colour. E.g. red, yellow and white – reminiscent of toy alphabet blocks and kindergarten toys. Combinations of geometric forms to create a shelf, which is reminiscent of a person (Sottsass). Pastiche – Patterns often mocked natural fur, (e.g. leopard skin) and industrial markings (e.g. cast non-slip plates). Metaphor was often used. E.g. Sottsass' sideboard has the shape of a mythical ('magical', rune-like) symbol. It looks like a man or monster figure.

Eclecticism (borrowing) is common. Motifs, e.g. Doric rectangular shapes are 'borrowed' from ancient sources like Greek, Roman and Renaissance architecture.

PoMo and development of plastic faux surface treatments and 80's, influence of Alessi and hi-end plastic products.

QUESTION 8

QUESTION TYPE / COGNITIVE SKILLS: Comprehension, Application, Analysis, Synthesis, Evaluation (25 marks)

LO 2 AS 1.8	**Interpret, use and explain the choice of design elements, principles and materials in the final product, service or environment.**
LO 3 AS 1.1	**Make value judgments informed by a clear understanding of design.**
LO 3 AS 1.2	**Understand design theory and use design terminology correctly**
LO 3 AS 1.3	**Discuss, explain and demonstrate the context and purpose of the products, images, signs and symbols used in design to convey overt and hidden messages that reinforce or challenge stereotypes, biases and prejudices, past and present.**
LO 3 AS 1.4	**Investigate, reflect on and interpret information from a variety of sources that show global influences in shaping the development of design.**
LO 3 AS 1.5	**Analyse, interpret and critically reflect on examples and relate them to their cultural, historical and contemporary contexts.**
LEVEL:	**Higher (11 marks), Middle (3 marks), Lower (11 marks)**

[25]

Mark should be awarded according to the essay rubric backed up with reference and discussion of a specific product and/or process. TWO actual designs must be discussed in detail. Use the rubrics suggested at the beginning of this section for marking the essay.

The answers to this question will vary substantially. However, all should refer quite clearly to the specific question – how Deconstructivist design echoes the ideas and technologies of our times.

Rise of the digital era, the matrix
Proliferance of CAD/CAM
Developments of space-age materials and technologies like aerogel
Concept of 'dematerialisation' –
Deconstructivism – use of glass, new materials, insane geometry,

There are no right or wrong answers, but the candidate must justify their positions with clear discussions of designers and their works. Discretion is required in the marking to allow for personal interpretation (to some extent) of the variety of trends in design.

Deconstructivism – incl. Frank Ghery, Zaha Hadid, Rem Koolhaas, Santiago Calatrava, Peter Eisenman, Bernard Tschumi, Daniel Libeskind, David Carson, Tibor Kalman, Rei Kawakubo, Norman Foster ...

50 marks

SECTION C   DESIGN IN CONTEXT (CONTEMPORARY)   50 marks

Answer TWO QUESTIONS from this section.

You may include drawings and mindmaps to support your answers.

QUESTION 9   DESIGN IN A CULTURAL CONTEXT

Question 9.1

QUESTION TYPE / COGNITIVE SKILLS: Recall (1 mark)

LO 3 AS 2.1   Demonstrate an understanding of the ways in which design can be used to reinforce orchallenge social, cultural, environmental and ethical issues.

LEVEL: Lower (1 mark)

One mark/listing. No justification needed.

magazines, fashion, television, apps on digital media, Movie posters, graffiti, book cover designs, fashion, youtube videos, products, animations or any other credible answer.

Question 9.2

QUESTION TYPE / COGNITIVE SKILLS: Comprehension (2 marks) Analysis (2 marks)

LO 3 AS 2.1   Demonstrate an understanding of the ways in which design can be used to reinforce or challenge social, cultural, environmental and ethical issues.
LO 3 AS 1.4   Investigate, reflect on and interpret information from a variety of sources that show global influences in shaping the development of design
LO 3 AS 1.2   Understand design theory and use design terminology correctly.
LO 3 AS 1.3   Discuss, explain and demonstrate the context and purpose of the products, images, signs and symbols used in design to convey overt and hidden messages that reinforce or challenge stereotypes, biases and prejudices, past and present.
LEVEL: Lower (2 marks) Middle (2 marks)

The answer requires that students understand the difference between the two terms, necessitating a comparative methodology. One mark should be awarded per credible explanation. Candidates can be awarded 3 marks for one explanation 1 for the other. Maximum 4 marks. Both terms must be explained!

Multi Cultural – **Multiculturalism** is an ideology that promotes the institutionalisation of communities containing multiple cultures. It is generally applied to the demographic make-upof a specific place. Different groups; social, cultural, political diversity; the doctrine that several different cultures (rather than one national culture) can coexist peacefully and equitably in a single country.

Pop Culture – totality of ideas, perspectives, attitudes, images and other phenomena preferred by informal consensuswithin the mainstream of a given culture. Contemporary lifestyle and items that are well known and generally accepted,cultural patterns that are widespread within a population; also called pop culture.

Question 9.3

QUESTION TYPE / COGNITIVE SKILLS: Comprehension (2 marks)

LO 3 AS 1.4   Investigate, reflect on and interpret information from a variety of sources that show global influences in shaping the development of design

LEVEL: Lower (2 marks)   (2)

TWO marks should be awarded for any credible opinions.

Language, colloquialisms, religious practices, traditional ritual … writings, festivals, graffiti culture, oral traditions, stories, folklore …

Question 9.4

QUESTION TYPE / COGNITIVE SKILLS: Recall (3 marks) Analysis (2 marks) , Synthesis (3 marks)

LO 3 AS 2.2   Demonstrate an understanding of the designer's responsibilities in relation to environmental issues and sustainable design
LO 3 AS 1.3   Discuss, explain and demonstrate the context and purpose of the products, images, signs and symbols used in design to convey overt and hidden messages that reinforce or challenge stereotypes, biases and prejudices, past and present.
LO 3 AS 1.4   Investigate, reflect on and interpret information from a variety of sources that show global influences in shaping the development of design
LO 3 AS 1.5   Analyse, interpret and critically reflect on examples and relate them to their cultural, historical and contemporary contexts.
LEVEL: Lower (3 marks) Middle (2 marks) Higher (3 marks)

There are many examples of designers who have used a reinterpretation of traditional craft skills to establish products that compete in a global context. Examples can be taken from:

Local – Zenzulu – Uses traditional Zulu Craft technique such as basket weaving.
Ardmore ceramics – using traditional coiling & slabbing pottery techniques
Nesta Nala – uses pit-fired ceramics
Haldane Martin – uses Zulu weaving techniques
Mielie – uses hooking and crochet techniques

International – Campana brothers using traditional furniture-making skills in Brazil. Tord Boontje uses traditional crochet, weaving skills in COOPA ROCA collaboration

Care should be given to an analysis of actual design and not the generic background of the project only. Credit must be given to any valid and reasonable answer. Marks should be allocated at ONE mark/ substantiated fact. … 8 marks in total.

Cannot accept generic examples.

Haldane Martin – uses Zulu weaving techniques: Zulu Mama Chair
Martin uses unemployed women to use recycled plastic in construction of Zulu Mama; uses recycled plastic milk bottles, which cuts down on waste dumping. Unlike Martin, most mainstream manufacturers won't work with recycled plastic because it is not defined as 'virgin' plastic (pure new plastic). He has sourced a recycler and a plastic extruder and then got them to work together. Out-sources the weaving which creates jobs. The spiral weaving technique, which is unique to Southern Africa is a very durable weaving pattern and has created beautiful and organic shapes. This has great export potential, which will benefit the economy. He believes in working

cooperatively which is also good for job creation. The Zulu Mama chair is sophisticated, contemporary and very comfortable. He creates collector's items which are satisfying people's need of aesthetics and functionalism; also uses riempie weaving technique in range

Designer: Nesta Nala – Pit-fired ceramics: Ukhamba pots.
Nesta Nala gets her clay, a red and a dark grey, from the local river in the Thukela Valley. This is sustainable as the river fills in the holes left by the 'mining'. Before firing the pot and while it is still leather hard, she will burnish it by hand using a river pebble. Nala fires her pots in a shallow pit using aloes as fuel. The aloe leaves used by Nala are the dry leaves at the bottom of the aloe, which are a seasonal feature. These dried leaves are a fire hazard (veld fires) if left on the plant. However some people argue that the function of the dried leaves is to protect the stem from burning. Glazes do not have to be bought – Nala is completely self sufficient. The pots are rubbed with fat to give it a sheen and make it watertight – again without glazes or high firing to stoneware temperatures which is expensive on electricity.

Fernando and Humberto Campana, Brazilian Designers. Favela Chair, 1991,
Drawing inspiration from Brazilian street life and carnival culture, the brothers FERNANDO AND HUMBERTO CAMPANA combine found objects – such as scraps of wood and fabric off-cuts – with advanced technologies to create a vibrant, energetic and definitively Brazilian approach to design.

Central to their practice is the importance of materials. The challenge, as the Campanas see it, is to transform something poor into something decadent and opulent. Inspired by Brazilian street life and carnival culture, the brothers combine found everyday objects such as scraps of wood and furry toys-with advanced technology to create a vibrant, energetic and specifically Brazilian approach (a busy, ostentatious, vibrant 'carnival' lifestyle) to design. Their cues come from everyday scenarios and unexpected combinations of found materials – such as rubber hose, tissue paper, string or fabric. Fernando and Humberto Campana transform mundane materials into objects that celebrate the discarded and are instilled with the spirit of contemporary Brazil that embraces the need for responsible design practice in improving our environment.

In the Vermelha chair, the brothers tie and weave an abundance of brilliantly coloured cord through a metal frame. 'We always say that first comes the material, then the form and finally we elaborate the function of the product by studying its ergonomics, limitations and capabilities.

The streets of São Paulo are a sort of laboratory for our designs. Whenever we need inspiration, we rely on the chaos and beauty of the city we live in. A good example of this is the Vermelha chair. The idea emerged when we bought a large bunch of rope from a street stall and brought it back to the studio. When we placed it on a table, we observed it deconstructing before our eyes. At that moment we both looked at each other and almost simultaneously remarked: 'This is the chair we want to build. It is a representation of Brazil in its beautiful chaos and deconstructiveness.' To replicate this deconstruction in the chair, we were careful to study the construction of the mess of ropes.'

Their Sushi chair transforms strips of brightly coloured plastic and carpet underlay into decorative rolls which then 'upholster' a basic frame. In the Favela Chair, wood, 1991, they have created a truly unique, environmentally conscious chair by using discarded waste wood. Inspired by the haphazard and chaotically built shanty towns of Sao Paulo, the Campanas designed a chair using similar construction techniques i.e Favela chair from scraps of wood they found on the streets. The result is an intricately fabricated chair, carefully assembled piece – by – piece using hundreds of recycled components. The end result means that this design does not impact on the ecology as trees do not have to be cut down for production. In this regard, discarded wood pieces are used in a creative way to create a sustainable design solution that also looks good. This process of

transformation has injected a new energy into contemporary design by presenting a bold, vibrant alternative to the rationalist ideals of the long dominant European modern movement.

The material tradition of Brazil is based on craftsmanship and economy of means. By experimenting with high and low tech materials and using artisanal techniques, the Campanas are able to harness the energies of their inherited tradition while defining a new aesthetic based on experimentation and advanced technologies.

They have also created a fresh and surprising way of looking at things. By weaving the fabric of São Paulo into their objects, the brothers present a very personal portrait of their city. 'Our designs were born in the street, from the urban kitsch of the popular quarters and contact with nature,' they say. 'Whenever we can, we go back to our farm. Nature revitalises our ideas.'

Question 9.5

QUESTION TYPE / COGNITIVE SKILLS: Comprehension (3) Analysis (2 marks), Synthesis (5 marks)

LO 3 AS 1.3   **Discuss, explain and demonstrate the context and purpose of the products, images, signs and symbols used in design to convey overt and hidden messages that reinforce or challenge stereotypes, biases and prejudices, past and present.**

LO 3 AS 1.4   **Investigate, reflect on and interpret information from a variety of sources that show global influences in shaping the development of design**

LO 3 AS 1.5   **Analyse, interpret and critically reflect on examples and relate them to their cultural, historical and contemporary contexts.**

LO 3 AS 2.1   **Demonstrate an understanding of the ways in which design can be used to reinforce or challenge social, cultural, environmental and ethical issues.**

LO 3 AS 2.2   **Demonstrate an understanding of the designer's responsibilities in relation to environmental issues and sustainable design**

LO 3 AS 3.2   **Demonstrate an understanding of responsible design by taking into consideration human rights and environmental issues throughout the process.**

LEVEL: **Lower (3 marks) Middle (2 marks) Higher (5 marks)**

Once again, there are many designers who can be used.

Local examples can include: Peter Rich, Garth Walker, Peet Pienaar, Amanda Laird Cherry, Design Team, Darkie Clothing (amongst others)

International examples – Colors -Tibor Kalman; David Carson – surf culture; Jean Nouvel – National Museum of Qatar; Zaha Hadid- Cagliarai Arts Centre, Calatrava's Milwaukee Art Museum …

Any design work that exhibits/portrays/participates in establishing culture of any sort, including graffiti, can be used as long as the discussion substantiates it. Marks should be awarded for credible discussion of designer's approaches, a discussion of works and an analysis of ONE work in detail. One mark/substantiated fact regarding DESIGNED products

A maximum of eight marks should be awarded for facts and two for a general substantiation of how culture is created. Total marks – 10.

Care must be taken that students DO NOT repeat information from Section B, Design History.

Exemplar Peter Rich – Mapungubwe Interpretation Centre.
Johannesburg-based Peter Rich was awarded the 'Oscar' of World Architecture for the Mapungubwe Interpretation Centre in Limpopo Province. Rich was named winner for the category of Culture: World Building of the Year award at the 2009 World Architecture Festival held in Barcelona in November 2009. The Mapungubwe Interpretation Centre, commissioned by South African National Parks (SANParks) three years ago, is an important building for South Africa. It was constructed on a site with great historical and archaeological significance in the Mapungubwe National Park, in the Limpopo Province.

Mapungubwe is being hailed as South Africa's Lost City of Gold. Mapungubwe is an area of open savannah at the confluence of the Limpopo and Shashe Rivers and abutting the northern border of South Africa and the borders of Zimbabwe and Botswana. One thousand years ago, Mapungubwe was the centre of the largest kingdom in the subcontinent, where a highly sophisticated people traded gold and ivory with China, India and Egypt. The Mapungubwe Landscape was declared a World Heritage Site on 3 July 2003.

Mapungubwe Hill means 'place of jackals'. It is a sandstone hill, with vertical cliffs about 30 metres high and a plateaued top approximately 300 m in length. The hill was inhabited for about seventy years between 1220 AD and 1290 AD by an advanced culture of people for the time – the ancestors of the Shona people of Zimbabwe. The Iron Age site, discovered in 1932 but hidden from public attention until only recently, has been declared a World Heritage Site by the United Nations Educational, Scientific and Cultural Organisation (Unesco). The site has been excavated by the University of Pretoria who now has a rich collection of artefacts made of gold and other materials, as well as human remains, discovered there.

The most spectacular of the gold discoveries is a little gold rhinoceros, made of gold foil and tacked with minute pins around a wooden core. The rhino, featured in one of South Africa's new national orders – the Order of Mapungubwe – has come to symbolise the high culture of Mapungubwe. The rhino is also a symbol of leadership among the Shona people of Zimbabwe. Other artefacts made in similar fashion include the Golden Sceptre and the Golden Bowl, found in the same grave on Mapungubwe Hill.

'The jury voted for the Mapungubwe Interpretation Centre because it was the most 'architecturally and psychologically powerful' project of all. Rich adds that the building's authenticity was also an important factor. 'What drew people to the building is that it evokes the same sentiments one experiences when walking into a ruin – a deep sense of history and emotion,' Rich says.

The complex landscape was both the inspiration for the design and the source of most of the materials for its construction. The Centre is situated at the confluence of the Limpopo and Shashe rivers. The interpretation centre is set on the side of a mesa, formed from the dramatic geological events that resulted in the Limpopo river changing its course from flowing into the Atlantic ocean to discharging into the Indian ocean. The ceremonial centre of this civilization is located on a sister mesa, one kilometre away from the site, and is the visual climax of the architectural experience orchestrated in the design of the centre.

Its significance called for a unique design approach – particularly as it would house artefacts from the region's prehistory. 'The architecture needed something special. You couldn't just have gum poles and thatch to display gold and artefacts. I wanted it to be a piece of landscape, not a building,' Rich explains. It is also not in keeping with a particular fashion and style. 'One person aptly described it as something that looks like it has grown out of the ground,' he says.

This resulted in a composition of structures that are authentically rooted to their location. The equilateral triangle provides the primary ordering, set out from a line running parallel to the

contours. Secondary elements are fixed in position by this geometrical system, significant because of its reference to triangular motifs etched on stones uncovered on Mapungubwe hill.

The heart of the interpretation centre is visually contained by two hollow cairns that evoke the route-markers found in southern African cultures. Timbrel vaulting is used to construct the billowing forms that expose the arched edges of their thin shells, an analogy of the archaeological revelation of past cultures. The domical language is contrasted by the delicate walkways that create a zigzagging ramped route through the complex. The visitor's first view, across a seasonal stream, is of the principal vaults springing directly from the land on robust buttresses.

The arrival point is marked by the first of the hollow cairns, lit by an oculus that tracks the path of the sun. The experience of the internal exhibition space is cavernous, articulated by the exposed tiles made from the local soil. Light is filtered through fused coloured glass, with dappled patterns reflected from the ponds that cool the air that naturally ventilates the buildings.

The termination of this central space is a second cairn, representing the sunset and housing the golden rhinoceros that has become a southern African icon. Visitors have a choice of route: ramp and stair, internal and external, to move into the upper parts of the vaults and appreciate the privileged view of the lower volume, as did the ancestors from their elevated position on the plateau of the hill. Volumes are linked by terraced seating, contrasting the structured horizontality of the contours with the diaphanous domes and arches.

The route continues outside the covered spaces, leading to the highest part of the site and affording a view across a flat expanse to Mapungubwe hill in the distance, with its backdrop of the Limpopo. The route provides the visitor with a multiplicity of experiences, evoking the complex social interactions of the many cultures that have traversed the site. The surfacing of all of the masonry in local rubble stone creates a timeless quality. It is as if they had erupted from the earth in a geological event similar to that which created the mesas of the site and Mapungubwe hill. The dome shaped roof is made from tiles that have been constructed with local soil.

The strong southern light is tempered by rusted steel screens that echo the network of branches of indigenous trees; horizontally slatted natural timber evokes traditional shade structures.

Rich only used carbon-friendly construction methods, because the sustainability component of the project was important. He emphasises that this decision wasn't motivated by green building trends, but to highlight the vulnerability of the local ecology. 'The green concept of building should become the standard. Architects shouldn't be patted on the back for it,' he says. The building has an 80% lower carbon footprint compared to conventional buildings, as most of the materials used for the roof and cladding are from the site.

The project's agenda extends beyond the presentation of the area's history to awaken an understanding of the vulnerability of the local ecology. This is a poverty relief project using ecological methods and materials. These objectives are manifested in the construction process of the Centre in which unemployed local people were trained in the manufacture of stabilised earth tiles and in building the vaulting.

Local stonemasons were employed to clad the building and unemployed people were trained in the manufacture of stabilised earth tiles and in building the Timbrel vaults. This is a long-forgotten construction technique using interlocking terracotta tiles to construct self-supporting arches.

Garth Walker

Garth Walker trained as a graphic designer and photographer at Technikon Natal in Durban in the mid 1970s. After studying graphic design, Walker formed one of the most well known design studios, Orange Juice, in 1995.

Inspired by his immediate environment of Durban and Kwa-Zulu-Natal, Walker created a corporate international design style but with an African element. According to Walker, 'we really have been pioneers in the mythical 'African' design language'.Walker's influence is gleaned from documenting what he called the 'world around him' with an emphasis on 'street design', and the emerging graphic styles of Durban's pavement traders, the ordinary street people, townships and street graphics. He photographs all the visual elements and uses these in his designs.

Our visual language is our most powerful traditional weapon. It's our tool of change. His work has also been published in over 100 books internationally and his work is still exhibited worldwide. The recipient of over 60 local and international awards, Garth has been profiled in I.D. magazine under the headline 'International Global top 40'. He is now running Mr Walker Design Studio. So what is African design? With camera in hand, Walker traverses sections of Durban most white guys wouldn't dare drive. He's in search of Indian drag racing and Zulu memorial sites, anything that suggests the mixed-up hybrid identity that Walker believes makes South Africa so compelling.

The material uncovered on these meanderings often appears in Ijusi as is, not sterilised in any way. For him, it's imperative to take a hard look at the so-called 'African Renaissance' and move beyond simplistic notions of Africa, pervasive here and abroad. Durban really is a 'fruit salad' of everything, everywhere, countrywide.'

In 1995, Orange Juice published the first issue of their experimental graphics magazine, I-Jusi. Now something of an institution, i-jusi (from the Zulu for juice) has been widely praised for the way it vigorously promotes and encourages an intelligent, dissident voice and a design language rooted in the South African experience. The magazine has been exhibited in over 25 countries and is held in the collection of MOMA, the Victoria and Albert Museum and Bibliotèque Nationale d'France.

The strictly non-commercial 16-page A3 magazine is published in a limited print run of 500 copies per issue. In the spirit of *ubuntu* (we exist relative to one another) the *i-jusi* production team all contribute their services gratis. *i-jusi* has been exhibited in 8 countries, has won countless design awards and been featured in most of the world's graphic design magazine.

Creatives from all disciplines are encouraged to experiment in freedom their personal views on 'I am an African ...' *i-jusi* aims to encourage and promote South African graphic design to interested creatives and writers worldwide. The *i-jusi* initiative is part of Orange Juice Design's commitment to developing a design language rooted in the African experience. Paging through the *Ijusi edition* – 'South African Stories' – one finds design, photography and writing inspired by and interpreting local culture: muthi-markets, street-side barber tents, and the signage of day labourers seeking work.

Published four times a year, each i-jusi issue is themed on topics relevant to contemporary South Africa. Designers, design students, illustrators, photographers and writers are encouraged to create in total freedom and to explore their personal views on life in a free and democratic South Africa. The three-part collaboration with *Bitterkomix* was recently acquired by MOMA's permanent design collection in New York.

With recent issues of *i-jusi* focusing on death, religion, pornography, and street style, the reader is presented with a vision of a Third World country in a monumental struggle. South Africa has the usual problems of an 'economy gone south,' a falling job market, debates on privatisation, education, housing and health care. But Walker adds, 'our biggie is crime which affects everyone (including fraud and bribery in the public sector), and AIDS (highest in the world).'

There has also been a consistent migration into South Africa from other African countries adding to overpopulation in the cities. These issues are reflected in *i-jusi* and sometimes offered with a sardonic twist, low-ball humour, scathing commentary, or personal soul baring combined with visual motifs and idiosyncratic iconography that blatantly could come from no where else. Walker admits that design confrontational content for social comment is still a small movement.

Number 8 Black and White Issue Walker's own perspective on South Africa is that it is 'a land with no 'gray': things are black and white. It's a land where the animals may be beautiful, but eat you, where you may have a gun in your ear since someone may want your running shoes or your car.' Through *i-jusi,* Walker presents a vision for a new South Africa where the black and white, multi-cultural, multi-lingual, multi-dimensional diversity of this place has a voice. Walker's approach to his exhibition for the 2008 Saint-Étienne Design Biennale is provocative and confrontational.

Working from the theme of Africa in 2036 (chosen by the festival as it is a twin calendar year of 2008), Walker deferred from depicting 'people running around in silly outfits, playing on their cell phones that can also poach eggs', rather showing a hardcore futuristic Africa in all its glorious wretchedness.

Inviting two other South Africa designers – Wilhelm Kruger and Brandt Botes – to help fill an exhibition space that could fit a few kombis, the work is an indictment of the continued platitudes that perpetuate the myth of Africa. Taking a hair-raisingly cynical approach, the work engages directly with what the three perceive will still be threats in 18 years time – the spread of HIV/Aids, the never-ending war on terror, the hustling nature of the new political business elite, the self-perpetuating weapons trade, and the neo-colonialist economic power of China and India.

Walker and his co-artists employ a number of fictional characters to vitalise the politically incorrect narrative: Jabu Ndlovu, a young Zulu designer and disillusioned activist; the Betrayed Boer, a right winger for whom everything went up in smoke; and the Cynical Columnist, a French African from Senegal who's living in France because the mother country didn't deliver the dream he thought it would.

The Jabu character takes the lead, representing the South Africans of all races who tend to forget about the struggle, romanticise the benefits of apartheid and generally feel that their expectations have been sold out. Walker explains: 'By 2036, the G8 will have become the G13, including South Africa. We would have sold out and become complicit in the exploitation.

Walker was also commissioned to create the typography and signage for the Constitutional Court in Johannesburg.

QUESTION 10   DESIGN IN AN ENVIRONMENTAL CONTEXT

Question 10.1

QUESTION TYPE / COGNITIVE SKILLS: Recall (1 mark) Application (2 marks), Analysis (2 marks)

LO 3 AS 3.2   **Demonstrate an understanding of responsible design by taking into consideration human rights and environmental issues throughout the process.**
LO 2 AS 3.2   **Understand the health and environmental implications related to the use of materials.**
LO 3 AS 1.4   **Investigate, reflect on and interpret information from a variety of sources that show global influences in shaping the development of design**
LO 3 AS 1.5   **Analyse, interpret and critically reflect on examples and relate them to their cultural, historical and contemporary contexts.**
LO 2 AS 1.8   **Interpret, use and explain the choice of design elements, principles and materials in the final product, service or environment.**

LEVEL: **Lower (1 mark), Middle (2 marks), Higher (2 marks)**

The correct answer should explain the concept of biomimicry and give at least ONE example of a product using the strategy. (5) **One mark/substantiated fact**

Biomimicry or biomimetics is the examination of nature, its models, systems, processes, and elements to emulate or take inspiration from in order to solve human problems. The term *biomimicry* and *biomimetics* come from the Greek words bios, meaning life, and mimesis, meaning to imitate. Other terms often used are bionics, bio-inspiration, and biognosis. Examples of designs using biomimesis as a design strategy are: Dew Bank water bottle, based on the desert beetle. Kitae Pak designed the Dew Bank Bottle lately after being inspired by onymacris unguicularis, a beetle found in the Namibian desert. The beetle procures water in a unique way: it goes to the peak of the sand dune every morning, and uses its body to help in dew formation, making the dew enriched fog to provide enough water for drinking. The Dew Bank Bottle works in almost the same way as that beetle. Its steel body assimilates the morning dew, purifies the water and then stores it in the bottle. The Dew Bank Bottle won the Bronze Prize at the Idea Design Awards 2010.

Stickybot, at Stanford University, makes a foray onto similar terrain. Bristled toes grab and let go, and the bot's limbs mimic the gecko's own anatomy. But so far it moves at a relative snail's pace. Designers hope it may one day be used in search-and-rescue applications.
Other examples abound!

Question 10.2

QUESTION TYPE / COGNITIVE SKILLS: Application (2marks) , Analysis (2 marks) Synthesis (2 marks)

LO 3 AS 3.2   **Demonstrate an understanding of responsible design by taking into consideration human rights and environmental issues throughout the process.**
LO 3 AS 1.4   **Investigate, reflect on and interpret information from a variety of sources that show global influences in shaping the development of design**
LO 2 AS 1.8   **Interpret, use and explain the choice of design elements, principles and materials in the final product, service or environment.**
LO 2 AS 1.4   **Demonstrate an awareness of the various materials and production processes relevant to the chosen discipline/s.**
LO 2 AS 1.6   **Demonstrate proficiency in chosen materials and techniques to create design solutions.**
LO 1 AS 2.1   **Display knowledge and appreciation of responsible design by taking into consideration human rights issues throughout the process, such as: local culture, health and safety with specific reference to HIV, access and inclusivity; use of materials that are safe and accessible to all; environmental issues; gender and bias; use of materials and processes that are free from stereotyping; ethics and intellectual property.**

LEVEL: **Lower (2 marks) Middle (2 marks) Higher (2 marks)**

In this answer, marks should be awarded according to one mark/ substantiated fact, related to up/or/down cycling. Students should be able to explain the terms with reference to actual design works.
One mark/substantiated fact (6 marks)

Upcycling
The remanufacturing of a material into a different product with a different material-use cycle. For example: a PET bottle made into fibres for high performance polyester clothing, which itself can be recycled. Creative designers and artists are perhaps the most inventive when it comes to upcycling or creating new products from old waste.

A growing number of designers upcycle waste materials such as car window glass and recycled ceramics, textile offcuts from upholstery companies, and even decommissioned fire hose to make belts and bags. Whilst accessories may seem trivial when pitted against green scientific breakthroughs; the ability of fashion and retail to influence and inspire consumer behaviour should not be underestimated.

Downcycling
The practice of recycling a material in such a way that much of its inherent value is lost. For example, recycling plastic into park benches or office paper eventually becoming pulp to mould an egg carton. Most recycled industrial nutrients (materials) lose viability or value in the process of recycling. This means they can only be used in a degraded form for components other than their original use. White writing paper, for example, is often downcycled into materials such as cardboard and cannot be used to create more premium writing paper.

Freecycling
The giving away or donating of unwanted items, particularly when said items are posted on freecycle.org. Originally referred to as 'hand-me-downs' by disgruntled younger siblings.

Example: Heath Nash upcycles other people's waste
Nash takes recycled plastic containers and upcycles them using the art of origami and craft construction techniques. Japanese origami & folded cardboard toys at school introduced Nash to latera thinking skills and mathematical problem solving. Nash's preoccupation with sheet materials and properties of materials led him to study a degree in (paper) sculpture. Even at this stage, he recycled cut-offs printers. First sign of an environmental awareness REDUCING the amount of new material needed for a new product. Post-university, he constructed and folded promotional products like invitations; flyers; promotional material. At this stage, he discovered sheet plastics.
Asked to make organic lampshades by *House & Leisure* magazine. These shades had overall organic shapes although the individual units consisted of straight folds. Aesthetic & functional concerns were integrated with the re-use of materials. RE-USE

He found that the quantity of tools (sharp knife & a steel ruler) used could be minimal for this type of work, i.e. REDUCE the amount of equipment – in line with environmental concerns. When working, Nash experiments with small models first, until he is satisfied with the result. This cuts down on material wastage.

REDUCE His current range is called 'Other People's Rubbish'. He is aware that what is useless to one group of people can be made into something beautiful that other people will value. In this way he integrates an environmental concern with aesthetics.

He concentrates on functional objects such as lights and lampshades of differing size and complexity. His range offers products at different ends of the price range as he doesn't want to work within an elitist group of customer. His machinery is simple. He uses constructed die-cutters

made of metal strips embedded in fibreboard. This is used in a press. Blunt strips (blades) created fold lines, whereas sharp strips cut the paper / plastic. in the LPG, PAT or any other documented source.

Design: Bottleformball, 2009.
Heath Nash's eye-catching creation called 'Bottleformball' is named for the fact that it uses old plastic household bottles as a point of departure. The use of recycled/found materials (plastic bottles) significantly reduces environmental damage. The shapes inherent in the bottles themselves are simply cut and used to create an interesting circular sculptural form. The protruding shapes at the edge of the circular form results in interesting silhouettes being created when illuminated. This is a departure from previous designs that involved the cutting of elaborate flowers from the bottles and making something from them. Nash utilises the beautiful bottles in their original state to create lighting that is unique. The translucency of the bottles is striking, especially when illuminated. Additionally, Nash has utilised CFL bulbs which act significantly to minimise harm to the environment.
Credit must be given to any valid and reasonable answer.
(Allocate 10 marks in total)

Question 10.3

QUESTION TYPE/ COGNITIVE SKILLS: Comprehension (1 mark) Application (1 mark)

LO 3 AS 1.3	**Discuss, explain and demonstrate the context and purpose of the products, images, signs and symbols used in design to convey overt and hidden messages that reinforce or challenge stereotypes, biases and prejudices, past and present.**
LO 3 AS 2.1	**Demonstrate an understanding of the ways in which design can be used to reinforce or challenge social, cultural, environmental and ethical issues.**
LEVEL:	**Lower (1 marks) Middle (1 mark)**

Answers required are the identification of ONE industry standard and a brief explanation. One mark/substantiated fact. Total 2 marks, ie,

FSC – Forestry Stewardship Council Certified
ISO 9000/14000.
Green Seal
Nordic Swan
Eco Label

Use the following as reference.

Setting standards for sustainability
ISO (International Organisation for Standardisation) is the world's largest developer and publisher of International Standards. ISO is a **network** of the national standards institutes of **163 countries**, one member per country, with a Central Secretariat in Geneva, Switzerland, that coordinates the system.
ISO is a **non-governmental organisation** that forms a bridge between the public and private sectors, having been set up by national partnerships of industry associations. Therefore, ISO enables a **consensus** to be reached on solutions that meet both the requirements of business and **the broader needs of society**.

ISO 14000

ISO 1400 is a set of stringent environmental management standards, created by the International Organisation for Standardisation (ISO), which certify products and companies that meet specific processes and practice criteria.

It serves as a tool to enable organisations of any size to identify and control the environmental impact of their activities, products, or services; to improve their environmental performance continually; and to implement a systematic approach to setting environmental objectives and targets, achieving them, and demonstrating that they have been achieved.

Eco-Labels

Eco labels include any label that attempts to certify or distinguish a product or service in terms of environmental issues.

The ISO 14021 – 14025 standards outline four different categories of eco-labels:

Type I labels are product seals **licensed by governments or third party** private entities based on **multiple criteria regarding lifecycle impact,** such as the US-based Green Seal or Sweden's Nordic Swan. Type I seals can vary substantially in their criteria, which may or may not be known or understood by customers.

Type II labels are informative, **self-declaration seals** about the environmental qualities of a product, such as 'contains 75% recycled paper.'

Type III labels offer quantified product information based on a **life cycle assessment**. These labels are best for comparisons between products or services. There are few examples of Type III labels in use. One in development is the Reveal label.

Type IV labels are single-issue seals licensed by companies or organisations. Examples include: the Leaping Bunny (signifying no animal testing), the Good Housekeeping seal of approval, Underwriter's Laboratories insignia, and the Forest Stewardship Council seal

FSC (Forest Stewardship Council) Certified
An independent nonprofit organisation devoted to encouraging the responsible management of the world's forests. Products carrying the FSC label are independently certified to assure that the forests they come from are managed to meet the social, economic, and ecological needs of present and future generations

Eco Mark
Issued by the Japan Environment Office (JEA), Eco Mark is an Environmental Labeling Program operated according to ISO standards. Every product bearing the Eco Mark has passed a strict examination and full life cycle assessment

---

Question 10.4

QUESTION TYPE/ COGNITIVE SKILLS: Application (4 marks) Analysis (2 marks), Synthesis (6 marks)

LO 3 AS 3.2	**Demonstrate an understanding of responsible design by taking into consideration human rights and environmental issues throughout the process**
LO 3 AS 2.1	**Demonstrate an understanding of the ways in which design can be used to reinforce or challenge social, cultural, environmental and ethical issues.**
LO 3 AS 2.2	**Demonstrate an understanding of the designer's responsibilities in relation to environmental issues and sustainable design**
LO 3 AS 1.4	**Investigate, reflect on and interpret information from a variety of sources that show global influences in shaping the development of design**
LO 3 AS 1.5	**Analyse, interpret and critically reflect on examples and relate them to their cultural, historical and contemporary contexts.**
LO 2 AS 3.2	**Understand the health and environmental implications related to the use of materials.**
LO2 AS1.8	**Interpret, use and explain the choice of design elements, principles and materials in the final product, service or environment.**
LO 2 AS 1.4	**Demonstrate an awareness of the various materials and production processes relevant to the chosen discipline/s.**
LO 1 AS 2.1	**Display knowledge and appreciation of responsible design by taking into consideration human rights issues throughout the process, such as: local culture, health and safety with specific reference to HIV, access and inclusivity; use of materials that are safe and accessible to all; environmental issues; gender and bias; use of materials and processes that are free from stereotyping; ethics and intellectual property.**
LO 1 AS 2.2	**Display knowledge and appreciation of aesthetics and functionality throughout the design process**
LEVEL:	**Lower (4 marks) Middle (2 marks) Higher (6 marks)**

Any contemporary designer who employs a sense of environmental stewardship can be used as an example. Designers who reduce, reuse, recycle, repurpose, use eco-materials will all be applicable.

Examples –   Andy Horn Ecoarchitecture
              Tord Boontje – TranSglass, lighting design
              Ryan Frank- Freerange
              Jens Praet-Shredded Series
              Phillips – Microbial home
              Yves Behar – Y-Water, Puma's clever little bag
              Sinichiro Ogato – Wasara disposable dinnerware
              Any other relevant, well-known contemporary designer

Note that students MAY NOT repeat any information that they have referred to in Section B or in any other questions. Examiners must take careful note to check other sections for duplication of information.

Students MUST discuss actual design products. 1 mark/substantiated fact. 12 marks total.

QUESTION 11   DESIGN IN A SOCIAL CONTEXT

Question 11.1

QUESTION TYPE; COGNITIVE SKILLS: Comprehension (3 marks), Application (3 marks), Evaluation (3 marks)

LO1 AS2.1	Display knowledge and appreciation of responsible design by taking into consideration human rights issues throughout the process, such as: local culture, health and safety with specific reference to HIV, access and inclusivity; use of materials that are safe and accessible to all; environmental issues; gender and bias; use of materials and processes that are free from stereotyping; ethics and intellectual property.
LO 2 AS 3.2	Understand the health and environmental implications related to the use of materials.
LO 3 AS 1.4	Investigate, reflect on and interpret information from a variety of sources that show global influences in shaping the development of design
LO 3 AS 1.5	Analyse, interpret and critically reflect on examples and relate them to their cultural, historical and contemporary contexts.
LO 3 AS 2.1	Demonstrate an understanding of the ways in which design can be used to reinforce or challenge social, cultural, environmental and ethical issues.
LO 3 AS 2.2	Demonstrate an understanding of the designer's responsibilities in relation to environmental issues and sustainable design
LO 3 AS 3.2	Demonstrate an understanding of responsible design by taking into consideration human rights and environmental issues throughout the process.
LEVEL:	**Lower (3 marks) Middle (3 marks) Higher (3 marks)**

Answers to this question must offer a relevant design example that might relate to a refugee situation, including the need for temporary /permanent shelter, food, water, safety, employment, education, integration. Any reasonable answer should be considered. However, generic answers cannot be accepted, i.e. water, housing. **ACTUAL designs by specific designers** can only be considered. For instance:

- Shigeru Ban – cardboard housing for earthquake victims – provides shelter with use of cardboard tubes
- Rajan Harinarain – Foldaway house – provide shelter with galvanised metal sheets
- Solar cooker by John Bohmer – enables people to cook food without electricity
- Lifestraw by Vestegaard Frantzen – enables people to drink any water and not contract sicknesses
- OLPC by Yves Behar– enables people to access the internet, apply for jobs online, get news…
- Pot-in Pot cooler by Mohammed Bah Abba – enables people to keep food cool, fresh
- Dewbank by Kitae Pak – collects dew water for drinking

Three examples needed: One mark – correct name of work
                            One mark – designer
                            One mark – brief explanation

9 marks in total

Because the question suggested "you as a designer working for government" , answers that suggested designing various housing/water/food security were accepted. One mark/credible and substantiated fact.

Question 11.2

QUESTION TYPE; COGNITIVE SKILLS: Comprehension (4 marks), Application (4 marks), Analysis (8 marks)

LO 1 AS 2.1	**Display knowledge and appreciation of responsible design by taking into consideration human rights issues throughout the process, such as: local culture, health and safety with specific reference to HIV, access and inclusivity; use of materials that are safe and accessible to all; environmental issues; gender and bias; use of materials and processes that are free from stereotyping; ethics and intellectual property.**
LO 2 AS 3.2	**Understand the health and environmental implications related to the use of materials.**
LO 3 AS 3.2	**Demonstrate an understanding of responsible design by taking into consideration human rights and environmental issues throughout the process.**
LO 3 AS 2.1	**Demonstrate an understanding of the ways in which design can be used to reinforce or challenge social, cultural, environmental and ethical issues.**
LO 3 AS 2.2	**Demonstrate an understanding of the designer's responsibilities in relation to environmental issues and sustainable design**
LO 3 AS 1.4	**Investigate, reflect on and interpret information from a variety of sources that show global influences in shaping the development of design**
LO 3 AS 1.5	**Analyse, interpret and critically reflect on examples and relate them to their cultural, historical and contemporary contexts.**
LEVEL:	**Lower (4 marks) Middle (4 marks) Higher (8 marks)**

Answers to this question must accommodate all the possible research case studies that candidates have undertaken into socially relevant design. The main concepts that should be communicated are those that enforce the idea of creating socially sustainable communities.

Social sustainability involves aspects like: housing, providing access to water and food security, creating employment and providing healthcare. Any of the following local or international examples would be appropriate.

- MMA – Freedom Park Housing Project
- Elemental SA – Monterey Housing Project New Mexico
- Y Tsai – Safmarine Container Sports Centre
- Shigeru Ban – earthquake housing
- Vestegaard Frantzen – Lifestraw
- Petser & Jonker Hippo water roller
- Mohammed Bah Abba– Pot-in Pot cooler
- John Bohmer – Kyoto Solar Cooker
- Monkeybiz outreach
- Streetwires and Indalao Project
- Mapula Outreach
- Adri Scutz & Mielie
- Weiden & Kennedy – The Girl Effect

Any other relevant well-known example

Answers may not be a repetition of any examples used in Q11.1. or in any other answers in the paper. Examiners must take care to check that information has not been duplicated elsewhere.

One mark should be awarded per substantiated, relevant fact. Actual design examples must be discussed in detail and not only generic information should be used. Credit must be given to any valid and reasonable answer.

QUESTION 12   DESIGN IN A BUSINESS CONTEXT

Question 12.1

QUESTION TYPE; COGNITIVE SKILLS: Application (2 marks) Synthesis (2 marks)

LO 3 AS 2.2   **Demonstrate an understanding of the designer's responsibilities in relation to environmental issues and sustainable design**
LO 3 AS 1.4   **Investigate, reflect on and interpret information from a variety of sources that show global influences in shaping the development of design**
LO 1 AS 2.1   **Display knowledge and appreciation of responsible design by taking into consideration human rights issues throughout the process, such as: local culture, health and safety with specific reference to HIV, access and inclusivity; use of materials that are safe and accessible to all; environmental issues; gender and bias; use of materials and processes that are free from stereotyping; ethics and intellectual property.**
LO 3 AS 3.2   **Demonstrate an understanding of responsible design by taking into consideration human rights and environmental issues throughout the process.**

LEVEL: **Middle (2 marks) Higher (2 marks)**

One mark to be awarded for the recognition and understanding of EACH of the 3 pillars:
People Planet, Profit;
or
Ecology, Economy, Equality
ONE mark to be awarded for an overall understanding of how the triple bottom line affects designers.
(4 marks total)

The Triple Bottom Line is an expanded baseline for measuring business performance, adding social and environmental dimensions to the traditional monetary benchmark.
Designers need to consider:
- the impact that their design will have not only on sales volumes, (profit)
- but also on the human factor in terms of safety in use, efficiency of product, promotion of sustainable values and ideas (people)
- and also on the planet, in the use of renewable materials, clean production processes and minimal/zero waste through durability and recyclability. (planet) designers must balance and control all three of these factors to achieve sustainable design.

Question 12.2

QUESTION TYPE; COGNITIVE SKILLS: Application (2 marks) Synthesis (2 marks)

LO 3 AS 2.2   **Demonstrate an understanding of the designer's responsibilities in relation to environmental issues and sustainable design**
LO 3 AS 1.4   **Investigate, reflect on and interpret information from a variety of sources that show global influences in shaping the development of design**
LO 1 AS 2.1   **Display knowledge and appreciation of responsible design by taking into consideration human rights issues throughout the process, such as: local culture, health and safety with specific reference to HIV, access and inclusivity; use of materials that are safe and accessible to all; environmental issues; gender and bias; use of materials and processes that are free from stereotyping; ethics and intellectual property.**
LO 3 AS 3.2   **Demonstrate an understanding of responsible design by taking into consideration human rights and environmental issues throughout the process.**

LEVEL: **Middle (2 marks) Higher (2 marks)**

Answers should allow for personal expression of responsible consumerism. One mark should be awarded per credible comment/criterion. Use the following as a guideline

An ethical consumer is one who is conscious of the surrounding context in which the product they buy/use exists. A consumer who does not bow to fashion trends, but buys products that will last beyond fads. A consumer who is not easily led by the media and who has a strong sense of their own identity. One who understands that the power of his/her consumption choices support and promote an entire microcosm of conditions and consequences surrounding the product they are buying – that there was raw materials used to make the product– where did it come from, how was it harvested? That the product was made by someone – what were the conditions of employment … What values do the product in use support.

Question 12.3

QUESTION TYPE; COGNITIVE SKILLS: Comprehension (1 mark), Application (1 mark), Analysis (3 marks)

LO 1 AS 2.1	**Display knowledge and appreciation of responsible design by taking into consideration human rights issues throughout the process, such as: use of materials that are safe and accessible to all; environmental issues**
LO 3 AS 1.4	**Investigate, reflect on and interpret information from a variety of sources that show global influences in shaping the development of design**
LO 3 AS 1.5	**Analyse, interpret and critically reflect on examples and relate them to their cultural, historical and contemporary contexts.**
LO 3 AS 2.1	**Demonstrate an understanding of the ways in which design can be used to reinforce or challenge social, cultural, environmental and ethical issues.**
LO 3 AS 3.2	**Demonstrate an understanding of responsible design by taking into consideration human rights and environmental issues throughout the process.**

LEVEL: Lower (1 mark) Middle (1 mark) Higher (3 marks)

FIVE considerations need be listed in paraphrase, no description or elaboration needed. 1 mark/substantiated fact. Use the following information as guidelines:

Goods can be certified as Fair Trade by organisations like the **Fair Trade Labelling Organisation (FLO).** The Fair Trade Movement is a **trading partnership promoting equitable trade** in today's global marketplace in which:

WFTO prescribes 10 Principles that Fair Trade Organisations must follow in their day-to-day work and carries out monitoring to ensure these principles are upheld:

Principle One: Creating Opportunities for Economically Disadvantaged Producers
Poverty reduction through trade forms a key part of the organisation's aims. The organisation supports marginalised small producers, whether these are independent family businesses, or grouped in associations or co-operatives. It seeks to enable them to move from income insecurity and poverty to economic self-sufficiency and ownership.

Principle Two: Transparency and Accountability
All aspects of trade and production are open to public accountability
The organisation is transparent in its management and commercial relations. It is accountable to all its stakeholders and encourages participation in its decision-making processes.

Principle Three: Fair Trading Practices
The organisation trades with concern for the social, economic and environmental well-being of marginalised small producers and does not maximise profit at their expense. Fair Trade buyers, recognising the financial disadvantages producers and suppliers face, ensure orders are paid on receipt of documents and an interest free pre-payment of at least 50% is made if requested.
The organisation works cooperatively with the other Fair Trade Organisations in country and avoids unfair competition. It avoids duplicating the designs of patterns of other organisations without permission. Fair Trade recognises, promotes and protects the cultural identity and traditional skills of small producers as reflected in their craft designs, food products and other related services.

Principle Four: Payment of a Fair Price
A fair price is one that has been mutually agreed by all through dialogue and participation, which provides fair pay to the producers and can also be sustained by the market. Fair pay means provision of socially acceptable remuneration (in the local context) considered by producers themselves to be fair and which takes into account the principle of equal pay for equal work by women and men.

Principle Five: Ensuring no Child Labour and Forced Labour
Adhere to the UN Convention on the Rights of the Child, and national / local law on the employment of children; ensure that there is no forced labour.

Principle Six: Commitment to Non Discrimination, Gender Equity and Freedom of Association
No discriminate in hiring, remuneration, access to training, promotion, termination or retirement based on race, caste, national origin, religion, disability, gender, sexual orientation, union membership, political affiliation, HIV/Aids status or age.
provide opportunities for employees to develop skills and actively promote applications from women for leadership positions; take into account the special health and safety needs of pregnant women and breast-feeding mothers.

Principle Seven: Ensuring Good Working Conditions
Working conditions are healthy and safe
Provide a safe and healthy working environment for employee
Working hours and conditions comply with ILO conventions.
improve health and safety practices.

Principle Eight: Providing Capacity Building
Increase positive developmental impacts for small, marginalised producers
Develop the skills and capabilities of its own employees
Develop activities to help producers improve their management skills, production capabilities and Access to markets.
Producers have access to financial and technical assistance

Principle Nine: Promoting Fair Trade
Honest advertising and marketing techniques are always used.

Principle Ten: Respect for the Environment
Use raw materials from sustainably managed sources, locally when possible.
Use production technologies that reduce energy consumption and use renewable energy technologies
Minimise the impact of waste stream
Use organic or low pesticide methods

Use recycled or easily biodegradable materials for packing
Goods are dispatched by sea wherever possible

Question 12.4

QUESTION TYPE; COGNITIVE SKILLS: Comprehension (4 marks), Application (3 marks), Analysis (5 marks)

LO 1 AS 2.1   **Display knowledge and appreciation of responsible design by taking into consideration human rights issues throughout the process, such as: use of materials that are safe and accessible to all; environmental issues**
LO 3 AS 1.4   **Investigate, reflect on and interpret information from a variety of sources that show global influences in shaping the development of design**
LO 3 AS 1.5   **Analyse, interpret and critically reflect on examples and relate them to their cultural, historical and contemporary contexts.**
LO 3 AS 2.1   **Demonstrate an understanding of the ways in which design can be used to reinforce or challenge social, cultural, environmental and ethical issues.**
LO 3 AS 3.2   **Demonstrate an understanding of responsible design by taking into consideration human rights and environmental issues throughout the process.**

LEVEL: **Lower (4 marks) Middle (3 marks) Higher (5 marks)**

Answers can refer to a wide range of case studies that were covered in the PAT tasks. Once again, answers cannot be generic and based on general knowledge, but MUST be based on SPECIFIC designed products by SPECIFIC designers/design companies/consultancies. If a project is mainly known by it's company of origin, ie Phillips Microbial home, the answer should be allowed.

Examples can include any Corporate Social Responsibility projects like:
- Siemens 7 Billion Project with Sustainable Cities.
- Metropolitan life and ABSA's media campaigns by the Amicollective
- Puma's sustainability campaign Pumavision and the input of designers like Yves Behar.
- Artenicia's Range – Design with a conscience.
- Phililps Microbial home.

The emphasis should be on designs/ers that create sustainability in a business context.
1 mark per substantiated fact. Maximum 4 marks for explanation of CSR. 12 marks total.

Corporate Social Responsibility represents a voluntary pledge to social and environmental concerns into company activities. It is a business outlook that acknowledges responsibilities to stakeholders not traditionally accepted, including suppliers, customers, and employees as well as local and international communities in which it operates and the natural environment. The responsibility of the companies and brands is to create environmentally friendly products   that   would   drive sustainable consumerism and also play a leadership role in fostering more sustainable levels and patterns of consumption through business processes such as innovation, marketing and communications.

'Sustainability will change design: new tools and strategies will reshape how, and why we design,' said Yves Béhar. 'In turn, design will be able to change complete industries in ways more profound than our profession has ever been able to accomplish. From new ways businesses operate all the way to how we all consume and live in the 21st century.'

EXAMPLE:

PUMA is one of the world's leading Sportlifestyle companies that designs and develops footwear, apparel and accessories. It is committed to working in ways that contribute to the world by supporting Creativity, SAFE Sustainability and Peace, and by staying true to the principles of being Fair, Honest, Positive and Creative in decisions made and actions taken. Puma is a brand that is embracing sustainability in all its business practices, from use of materials, to production methods and more recently, to packaging. Their vision, called PUMAVision looks ahead to a world that is safer, more peaceful and more creative for the generations to come. Through the programs of

- puma.safe (focusing on environmental and social issues),
- puma.peace (supporting global peace) and
- puma.creative (supporting artists and creative organisations), we are providing real and practical expressions of this vision.

PUMA created with designer Yves Behar a number of design onnovations to reduce their carbon footprint. The most well-known is the Clever Little Bag designed by Béhar, previewed in the Design Museum exhibition '*Sustainable Futures – can design make a difference?'*.

This industrial designer Yves Béhar of the San Francisco based fuseproject, marks a pivotal phase of PUMA's ambitious sustainable packaging and distribution system, developed in partnership with renowned long-term sustainability programme and underpins its target of reducing carbon, energy, water and waste by 25%.

PUMA's initiative to look closely at one of the most challenging issues facing the retail industry in regards to sustainability and environmental harm is inspirational. In changing the packaging and distribution life cycle from the ground up, they hope to encourage other retail companies to follow suit.
More specifically, the Clever Little Bag uses less packaging, fewer raw materials and less water and energy in production than traditional shoeboxes.

A re-usable 'Clever Little Bag' replaces the cardboard shoebox – resulting in annual savings of 8 500 tons of paper, 20 million Megajoules of electricity, 1 million litres of fuel oil and 1 million litres of water. The Clever Little Bag takes 65% less paper to make and reduces water, energy, and diesel consumption during manufacturing by over 60% a year. Switching to the Clever Little Bag also reduces carbon emissions by 10,000 tons a year. Thanks to a reduction in weight, energy use is also decreased during shipping. Annually, this translates into a reduction of 8,500 tons of paper used, 20 million megajoules of electricity saved, a reduction of 1 million litres of fuel and a savings of 1 million litres of water.

The Clever Little Bag isn't the only eco-conscious packaging Puma has adopted. The next generation of packaging includes the Clever Little Shopper (a 100% biodegradable carrier bag), smaller hangtags, and biodegradable apparel bags. Puma is developing 50% of its international product collections in footwear, apparel and accessories according to best practice sustainability standards by 2015.
Doing away with about 720 tons of polyethylene bags – enough to cover 1 000 football pitches – by bagging apparel in sustainable material.
PUMA T-shirts will be folded one more time to reduce the packaging size, save on CO_2 emissions and reduce transport costs.
Biodegradable bags will replace plastic and paper shopping bags in PUMA stores – to save another 192 tons of plastic and 293 tons of paper annually.

- PUMA's Practices Consistent with California Anti-Slavery Law
- Puma sponsors an annual PUMA.Safe Sustainable Design Lecture

- Puma and Premier Power develop one of the largest solar energy projects in sportlifestyle world
- PUMA Releases combined Financial and Sustainability Report 2010
- PUMA featured in the high-profile Carbon Disclosure Leadership Index (CDLI)
- PUMA Receives 2010 German Sustainability Award
- PUMA has been collecting E-KPIs (Environmental Key Performance Indicators) from all its offices and stores worldwide for the last five years and identified several key areas that need to be dealt with in order to further reduce PUMA's 'paw print'.
- To address these issues, PUMA has laid out ambitious targets to be achieved by 2015 as part of the company's long-term sustainability program. Within this context, PUMA will introduce a Sustainability Index. The 'S-Index' serves as an internal benchmark for sustainable production and communicates those features to consumers.
- 50% of PUMA's international collections will be manufactured according to the PUMA S-Index standard by 2015, using sustainable materials such as organic cotton, Cotton Made in Africa or recycled polyester as well as applying best practice production processes.
- Furthermore, PUMA wants to reduce CO2, energy, water and waste in PUMA offices, stores, warehouses and direct supplier factories by 25% over the next four years. Introducing a paperless office policy will curtailpaper usage by 75% and more efficient product transport solutions by our logistic partners should reduce their CO2 emissions by 25%. To monitor these objectives PUMA has also established an external Advisory Board of experts in sustainability to consult on PUMA's mission and audit PUMA's sustainability program. The German Sustainability Award has been established to reward role model corporations which combine business success with social responsibility and environmental protection. Special focus is on consistent sustainability management of business and brand. 560 companies were entered into the competition. PUMA is currently investigating the inventory of all dyestuffs, auxiliaries and chemicals stored or used on site PUMA's supplier factories in relation to all wet processes, equipment cleaning, grounds maintenance (e.g. pesticides or herbicides), water treatment and wastewater treatment, fire-fighting practices (as fire extinguishers may contain certain hazardous chemicals) and workshop maintenance. PUMA expects to have a complete inventory list in autumn 2011.

- PUMA Progress Update Detox Campaign
  PUMA.Safe Environmental Handbook and Restricted Substances List, which are both binding for PUMA suppliers, to cover not only restrictions for substances that refer to concentrations in final PUMA products, but also add a ban on intentional use for substances within the production process that should be replaced by more environmentally-friendly substitutes. Once completed, the PUMA Environmental Handbook will entail a detailed action plan that defines PUMA's commitment to eliminate hazardous substances from the production process, the scope and timeline of this commitment as well as providing guidelines on the precautionary principle.