



# **basic education**

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Department:  
Basic Education  
**REPUBLIC OF SOUTH AFRICA**

## **SENIOR CERTIFICATE EXAMINATIONS/ NATIONAL SENIOR CERTIFICATE EXAMINATIONS**

**DESIGN**

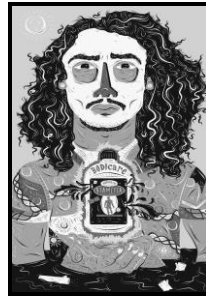
**(THEORY)**

**2019**

**MARKING GUIDELINES**

**MARKS: 100**

**These marking guidelines consist of 22 pages.**

**SECTION A: DESIGN LITERACY****'UNSEEN' EXAMPLES****ANSWER EITHER QUESTION 1.1 OR QUESTION 1.2.****QUESTION 1 [10 Marks]**1.1      1.1.1      **(Allocate 8 marks)****LINE**

The curvilinear and wavy lines on the hair and in the liquid that the body emerges from suggest intense movement. ☑ The lines are loose and nearly abstract and do not define accurately. ☑ The informal, haphazard lines give a quality of freedom to the design. ☑

**TEXTURE**

The spirally lines on the hair implies the rough curly texture of the hair. ☑ The ripples of the water are suggested by loose wavy lines. ☑ The detailed small lines on the hands imply the rough inside texture of the hands. ☑ The thin black lines on the chin suggest a stubbly beard. ☑ There are also areas like the background and his facial skin which are smooth and this smoothness brings to the fore the busy textural areas. ☑

**CONTRAST**

There are many contrasts in this design which all work together to create a lively, vibrant effect. The plain, flat background contrasts with the detailed and busy foreground. ☑ The use of complementary colours, green and red, creates contrast. ☑ The off-white colour on the face contrasts strongly with the black of the hair. ☑ The angular shape of the nose contrasts with the circular shape of the eyes and earlobes. ☑

**MOVEMENT**

The fluid nature of the liquid is emphasised by the lines created by the body movement in it. ☑ The creases on the sleeves of the T-shirt imply arm movements. ☑ The jagged outline of the 'Bodicare' bottle suggests that the bottle is floating or hovering in the air. ☑ The curvy, 'whiplash' lines surrounding the bottle give the impression of flowing liquid. ☑

1.1.2 **(Allocate 2 marks)**

The head is the first to draw attention because of its large size☑ and because of the colour of the face, which is white and bright against the black enclosure of the hair and the bottle.☑ This makes the face a focal point.☑ Second to be seen would be the red colour combined with the hands and the biceps due to the flesh colour that emerges from the black liquidly background.☑ The next item on the visual hierarchy would be the green body and the background that unifies the whole poster.☑ Smaller shapes like the small busy shapes of the pattern on the T-shirt and the small wooden sticks floating in the liquid are last to be noticed.☑

**Credit must be given to any other valid statements.**

Q.1.1 LEVEL	COGNITIVE SKILLS	WEIGHTING	QUESTIONS	MARKS (10)
<b>Lower Order</b>	Remember, Recall, Recognise	30%	1.1.1	1
	Understand, Explain, Describe		1.1.1 1.1.2	1 1
<b>Middle Order</b>	Apply, Implement, Organise	40%	1.1.1 1.1.2	3 1
<b>Higher Order</b>	Analyse, Interpret	30%	1.1.1	1
	Reflect, Judge		1.1.1	1
	Synthesis		1.1.1	1

OR

1..2 (Allocate a maximum of 2 marks per design element and term)



**LINE:**

The knitted technique of the garment gives it a linear quality that defines the sculptural, three-dimensionality form.  Zigzag and curved lines creates movement whereas the strong horizontals of the yoke and the bottom part of the 'head' stabilise this movement.

**TEXTURE:**

The wool appears soft and cuddly.  Although the same wool is used throughout the design, the use of a variety of knitting techniques creates different textured, tactile surfaces.  The most prominent knitting stitches are plain, purl and ribbing.  The purl stitch creates a honeycomb pattern and texture.

**COLOUR:**

The garment is a soft and gentle monochromatic flesh nude colour.  It is natural and it merges with the human figure.  The colour calms the busy quality created by the knitting stitches and the variety of forms of the garment.

**FORM:**

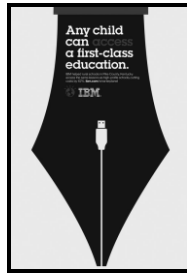
The garment consists of an overlay of a variety of forms. The forms are mostly organic , the bust area suggest an ox or ram head edged with curvilinear horns  The bust area can also be seen to be a sheep skull or the head of the praying mantis, referencing Africa.  The straight horizontal forms on the collar bone suggest a yoke linking with the idea of the ox harnessed.

**FUNCTION:**

The function is layered with various meanings. As a Postmodernist costume the main function is sculptural, formulating a philosophical concept  and fashion statement.  The garment clearly shows a strong return to traditional craft techniques and heritage.  With the inclusion of references to oxen, ram horns, vertebrae, a sheep skull and a praying mantis, the costume imitates biomorphic forms and makes use of biomimicry.  The garment does not follow the dictum of 'Form follows Function' as it is a sculpture first and then a functional garment.  The garment becomes a 'mask' or costume that changes the wearer into another being, e.g. an ox or a ram with a yoke.

**Credit must be given to any other valid statements.**

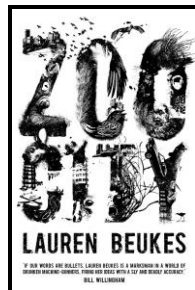
Q.1.2 LEVEL	COGNITIVE SKILLS	WEIGHTING	QUESTIONS	MARKS (10)
Lower Order	Remember, Recall, Recognise	30%	1.2	1
	Understand, Explain, Describe, Classify		1.2	2
Middle Order	Apply, Implement, Organise	40%	1.2	4
Higher Order	Analyse, Interpret	30%	1.2	1
	Reflect, Judge		1.2	1
	Synthesis, Justify		1.2	1

**QUESTION 2: COMMUNICATION THROUGH DESIGN [10 marks]****2.1 (Allocate 8 marks)****2.1.1 (Allocate 2 marks)**

The nib of a fountain pen could be seen as a symbol of old-style education as it is the predecessor of ballpoint pens.  It is used as a focal point to explain the difference between old-style education and modern, technology-driven education.  IBM's earth logo symbolises the whole world in which any child can have access to 1<sup>st</sup> class education.  The USB symbolises modern technology used in education.

**2.1.2 (Allocate 2 marks)**

The negative space in the nib of the fountain pen forms a USB.  The positive space of the black fountain pen is very strong and dominant . The white cord of the USB cable represents the negative space in which the fountain pen draws up its ink to write with.  The white negative shapes of the font emphasises the main message of the poster.

**2.2****2.2.1 (Allocate 4 marks)**

The textural quality of the letters is made up of animal parts and cityscapes. The feathery, furry textures seem to be strangling the buildings.  The animals seem to be invading or taking over the city.  Each letter is disintegrating into animal body parts and textures which could refer to the disintegration of the city.  The screaming mouth and intertwined lines create an eerie, strange, chaotic and surreal city scene.  The images of the flock of birds flying away from the city could refer to migration and the possibility of the city transforming into a desolate ghost town.

The images contain elements of parody, satire and wit. Layered, ambiguous meanings are emphasised.  The word 'jungle city' becomes a visual word play.

2.2.2 **(Allocate 2 marks)**

A book cover should attract the buyer with a striking design that  conveys the content and mood of the book  using appropriate images, lay-out, colour and typography.

**Credit must be given to any other valid statements.**

Q.2 LEVEL	COGNITIVE SKILLS	WEIGHTING	QUESTIONS	MARKS (10)
<b>Lower Order</b>	Remember, Recall, Recognise, Name	30%	2.1.1	1
			2.1.2	1
	Understand, Explain, Describe, Classify		2.1.1	1
<b>Middle Order</b>	Apply, Implement, Organise	40%	2.1.2	1
			2.2.1	2
			2.2.2	1
<b>Higher Order</b>	Analyse, Compare, Interpret	30%	2.2.1	2
			2.2.2	1
	Evaluate, Reflect, Judge			

**QUESTION 3 [10 marks]****ANSWER EITHER QUESTION 3.1 OR QUESTION 3.2.****3.1 (Allocate 10 marks)**

FIGURE E

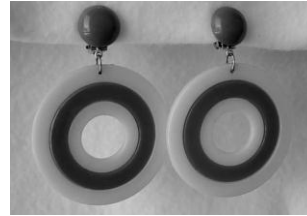


FIGURE F

The **material** used in FIGURE E is engraved silver, with reliefs added and finished with a patina. In contrast the earrings in FIGURE F are made from smooth and shiny Perspex. The use of silver in FIGURE E makes the earrings look expensive and heavy, whereas the cut Perspex sheets used in FIGURE F looks light and cheap. This cheap quality is further enhanced with the silver wire jump ring. The material used in FIGURE E is more durable and longer lasting in comparison to the brittle nature of the material used in FIGURE F.

FIGURE E's appearance gets its **inspiration** from eclectic antique African, Eastern, Moroccan and ancient Graeco-Roman styles whereas FIGURE F looks modern, and is most probably Pop-inspired and designed for teenagers. The piece resembles a bull's eye target and could make reference to the decorative icons found on war aircrafts. Its use of bright colours and cheap plastic could indicate that it is inspired by kitsch. FIGURE F might have taken inspiration from Scandinavian design with the use of new materials and the use of warm colours.

FIGURE E stays true to its materials and the silver material is its basic **colour** that lends itself to areas that are shiny versus tarnished or patina. FIGURE F makes use of a warm colour scheme. The designer constricted his colours to two yellow and one orange ring/circle. The piece that fits to the earlobe repeats the orange colour and unifies the design through colour.

The **balance** in FIGURE E is symmetrical because the left is a mirror image of the right side. This symmetrical quality stabilises and orders the design. In contrast, FIGURE F has a radial balance where concentric circles get gradually larger towards the outer edge, which creates rhythm and movement.

FIGURE E uses a variety of **shapes** that might have symbolic meanings. The motifs used are shield-like with geometric patterns, e.g. wedge into the silver four triangular and one circular shape and an incomplete circle that might resemble a silhouette of a mosque. The rest of the earring consists of triangular shapes that change to a frilly, lacy shape. FIGURE F uses only circular shapes. In FIGURE E, many of the shapes are biomorphic and complex. In FIGURE F the shapes are not so complex. The earrings

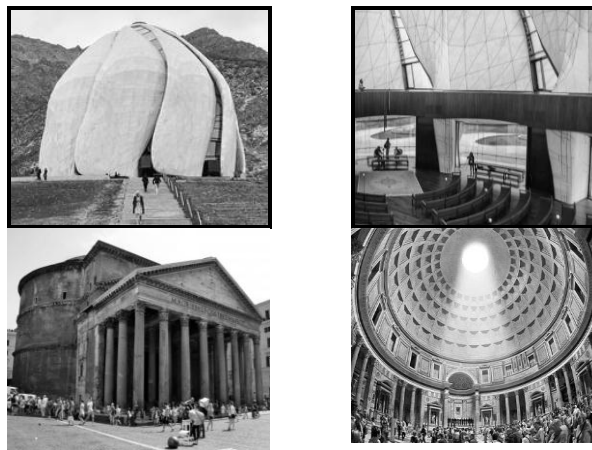
consist of concentric circles with a hole in the middle   
**Credit must be given to any other valid statements.**

**NOTE: A maximum of ONLY 3 marks may be allocated for tabular comparison responses. Use the cognitive level grid as a guideline for your marking**

Q.3.1 LEVEL	COGNITIVE SKILLS	WEIGHTING	QUESTIONS	MARKS (10)
Lower Order	Remember, Recall, Recognise	30%	3.1	1
	Understand, Explain, Describe		3.1	2
Middle Order	Apply, Implement, Organise	40%	3.1	4
Higher Order	Analyse, Compare, Interpret	30%	3.1	1
	Evaluate, Reflect		3.1	1
	Create, Synthesise		3.1	1

OR

3.2 (Allocate 10 marks)



The contemporary Bahá'i Temple, FIGURE G of South America Chile was designed by Hariri Pontarini Architects. The Bahá'i House of Worship **functions** as a place of prayer; it is open to peoples of all faiths.  Similarly the original function of the Pantheon that was to serve many gods as the word Pantheon is a Greek adjective meaning 'honour all gods'.

This Bahá'i temple of light expresses a faith that allows an inclusive **patronage**.  It is a centre for prayer, meditation and gathering for all of the inhabitants of Peñalolén and the whole country to seek a place of tranquillity and introspection.  The patronage of the Pantheon, a much older historically rich building, has changed over the years. Formerly a pantheist Roman temple, it now functions as a Christian church with a Christian patronage.  Bahá'í temples are without ritual or clergy, without icons or images; they are conceived to reflect an ideal of universal worship where women, men and children can gather together as equals.



The Bahá'í Temple of FIGURE G is a domed, luminous **structure** that echoes the rolling topography of the Andes while appearing to float some 30 metres above the earth. ☑ The Pantheon building is similar to the Bahá'í Temple; a rectangular vestibule (foyer) links the porch to the rotunda (building), which is under a coffered concrete dome, with a central opening (oculus) to the sky. ☑ Similarly to the Pantheon the Bahá'í Temple also has a central oculus at the apex of the dome, through which visitors will experience a mesmerising transfer of light. ☑ The oculus of the Pantheon is 7,8 metres in diameter; it is the only source of light and also serves as a cooling and ventilation method. Rain occasionally falls through it, but the floor is slanted and drains the water if it manages to hit the floor. ☑ In practice, rain seldom falls inside the dome. Openness and transparency are fundamental to both the structure and site of the Bahá'í Temple whereas the Pantheon is a built-up area and is an enclosed space. ☑ The Bahá'í House of Worship can be accessed by nine entrances located at regular intervals around the domed structure, while curving paths lead visitors on walking meditations through the sloped landscape. The Pantheon, on the other hand, has only one entrance. ☑

The **architectural innovations** of FIGURE H, the Pantheon remains unsurpassed. Almost two thousand years after it was built, the Pantheon's dome remains the world's largest unreinforced concrete dome. ☑ The Pantheon has perfect proportion, its height to the oculus and the diameter of the interior circle is the same, 43,40 m. ☑ The massive weight of the large dome is one of the greatest architectural innovations. Roman engineers lightened the dome as much as possible; not only does its thickness progressively decrease, but the materials used in the upper part of the dome were lighter with internal spaces within the dome walls. ☑ The coffered concrete dome was cast in situ; the concrete was poured into moulds that were probably mounted on temporary scaffolding. The decrease in thickness has the effect that while the interior of the ceiling is spherical, its exterior is slightly 'flattened'. ☑ The architects of the Bahá'í Temple were equally innovative in that they had to develop a system of constructing the sculptural building by using machine-to-machine fabrication to create highly irregular, organic shapes in glass. ☑ It has nine monumental glass veils that frame an open and accessible worship space where up to 600 visitors can be accommodated. ☑

The exact composition of the **building material** used for the dome of the Pantheon, FIGURE H remains a mystery to this day but appears to be structurally similar to modern-day concrete. ☑ In comparison to the solidity of the Pantheon's concrete, the material used for the exterior of the Bahá'í Temple is transparent melted glass that recalls the configuration of snowflake crystals. ☑ The interior is of translucent Portuguese marble whereas the Pantheon's interior is of Italian marble. ☑

**Credit must be given to any other valid statements or a comparison of a classical and contemporary building that the candidate has studied.**

**NOTE: A maximum of ONLY 3 marks may be allocated to tabular comparison responses. Use the cognitive level grid as a guideline for your marking.**

<b>Q.3.2 LEVEL</b>	<b>COGNITIVE SKILLS</b>	<b>WEIGHTING</b>	<b>QUESTIONS</b>	<b>MARKS (10)</b>
<b>Lower Order</b>	Remember, Recall, Recognise	30%	3.2	1
	Understand, Explain, Describe, Classify		3.2	2
<b>Middle Order</b>	Apply, Implement, Organise	40%	3.2	4
<b>Higher Order</b>	Analyse, Compare, Interpret	30%	3.2	1
	Evaluate, Reflect		3.2	1
	Create, Synthesise, Justify		3.2	1

**TOTAL SECTION A: 30**

**SECTION B: DESIGN HISTORY****QUESTION 4 [30 marks]****4.1 (Allocate 20 marks)**

**(Allocate 10 marks for each movement. Note that only one mark can be allocated for the name of a designer and product of each movement. Use the cognitive level grid as a guideline for your marking.)**

**DE STIJL**

The designs of the De Stijl movement very aptly reflect the '**Less is More**' approach. This can be seen in their **aim** of achieving a new reality based on extreme simplicity and abstraction.  Reality is stripped of all individual characteristics and surface detail to become 'less' in order to expose what they considered to be the underlying essence, i.e. the straight vertical and horizontal line, the square and rectangle, the three primary colours and the neutrals.  The 'essence' for De Stijl art then lies in 'less' rather than 'more'. De Stijl artists also aimed to achieve a perfect balance between the opposites – balancing, for example, the horizontal with the vertical line and black with white.

The Cubists interest in simplifying and reducing nature into geometric facets **influenced** De Stijl.  De Stijl's abstraction is a direct result of the Cubists' interest in abstraction and their emphasis of the flatness of the picture plane.  The Dutch tradition of logic, clarity, severity and mathematical order is another influence on De Stijl, as well as Mondrian's interest in theosophy (a spiritual philosophy exploring the balance between opposites).

General **characteristics** of De Stijl are the use of minimal elements, i.e. the vertical and horizontal straight line, the rectangle and square, the three primary colours (red, blue and yellow) and the neutrals (black, grey and white).  These characteristics all contribute to convey order, rationality, balance and a cold, machine-like feel.



The '**Red and Blue Armchair**' by **Gerrit Rietveld**  is a good example of De Stijl design and of the 'less is more' philosophy. It is a very simple structure consisting only of straight lines and geometric, rectangular shapes.  No surface detail, texture or decoration is visible. Its beauty lies in its simple, clean structure and the perfect balancing of the elements.

**POSTMODERNISM**

The Postmodern designer, Venturi, coined the phrase 'Less is Bore'.  Postmodernism is a reaction against the impersonal, cold, machine-like nature of Modernism and their need to find a pure, universal style.  Postmodern designers **aimed** to replace the authoritarianism of Modernism with

individualism. ☑ They wanted to create designs to satisfy human needs – that could be appreciated and understood by the general public and that were not elitist like those of the Modernists. ☑ Therefore they reflected elements from past styles, made use of ambiguity, brought back decoration and colour. ☑ This is clearly a 'more' rather than a 'less' approach.

Postmodernism is **influenced** both by the architectural styles of the Greeks and Romans, as well as by aspects of Modernism. ☑ Their designs also reflect the influence of the Anti-Design movement of the 1960s in Italy which included the work of groups such as Memphis Studio, Archizoom and Super Studio. ☑ Their use of eclectic sources as inspiration and their combination of cheap and expensive materials and of popular and high culture appealed to the Postmodernists belief in multi-layering. ☑ The quirky and colourful designs of the Anti-Design movement displayed 'more' rather than 'less'.

Postmodern designs are eclectic resulting in a lack of coherence. ☑ Other typical **characteristics** are their use of ornamentation, colour, distortion, kitsch, humour and ironies creating vibrant, busy designs that completely oppose the 'less is more' approach. ☑ Modern techniques, materials and forms (e.g. smooth, machine-like, geometric steel forms are combined with wooden, curved arch forms). ☑



A good example of Postmodernism is the **Piazza d' Italia by Moore and Perez** architects. ☑ This building was designed to pay homage to the large Italian community in this area. Its structure is inspired by the architecture of Rome in its use of, for example, columns in the various orders. ☑ The use of bright, modern colours and neon lights with these orders undermines the simplicity and order of the Roman style and creates unexpected and fun contrasts. ☑ Decorative details are seen everywhere proving that the architects of this building believed that 'less' is 'boring'. The building is complex and multi-layered. ☑

**Credit must be given to any other valid statements.**

Q.4.1 LEVEL	COGNITIVE SKILLS	WEIGHTING	QUESTIONS	MARKS (20)
<b>Lower Order</b>	Remember, Recall, Recognise, Name	30%	4.1	2
	Understand, Explain, Describe, Classify		4.1	4
<b>Middle Order</b>	Apply, Implement, Organise	40%	4.1	8
<b>Higher Order</b>	Analyse, Compare, Interpret	30%	4.1	2
	Evaluate, Reflect		4.1	1
	Create, Synthesise, Justify		4.1	3

## 4.2 (Allocate 10 marks)



The lilac ziz-zag or triangular shapes on the Art Deco bag in FIGURE I reveal the **influence** of Cubist and Constructivist simplification, abstraction and 'geometrication'.  In contrast, the Arts and Crafts period's use of organic shapes, influenced by nature, can be seen in the handbag in FIGURE J's natural form and generally curvilinear patterns.  The Art Deco bag's use of abstract, simplified, geometric shapes shows the influence of the machine age, whereas the Arts and Crafts bag shows the movement's rejection of the machine and mass-production and their return to quality hand production techniques.

The use of **texture** in FIGURE I is lively and varied, contrasting a knobby silver texture with smooth areas of enamelling is typical of Art Deco designs.  The Arts and Crafts bag is, on the other hand, more tactile with calm areas devoid of patterns dominating the design. The texture in FIGURE J is real because it is a relief texture.  The natural leather texture of the Arts and Crafts bag reflects their wish to use natural materials as far as possible. Tooled stems and flowers emboss certain sections of the bag.

The **lines** in the Art Deco bag are mostly straight and clean, typical of Art Deco's machine-age style, whereas the curvilinear lines delineating stems and flowers are typical of Arts and Crafts.  The zigzags formed by the repeated triangles in the Art Deco bag create a dynamic surface pattern reminiscent of Jazz music.  The use of line to create minimal decoration in FIGURE J reflects the Arts and Crafts wish to provide an alternative to the fussy, over decorated, mass-produced goods of the time.

The two sides of the Art Deco bag are symmetrical but the middle section forms an asymmetrical **balance** as the flower motifs dominate the right-hand corner.  This adds interest to the design. On the other hand, the Arts and Crafts bag is completely symmetrical - this formal arrangement is typical of Arts and Crafts designs.

The Art Deco bag uses a bright, light purple colour that contrasts with black and silver to create a decorative, jazzy pattern.  This reflects the Art Deco period's interest in fun and escapism.  The Arts and Crafts bag, on the other hand, is a leather bag that shows a variety of natural repetitive floral patterns.  These relief patterns add variety and contrast to the overall appeal of the handbag.  This emphasis on natural textures and colours is typical of the Arts and Crafts movement's interest in the use of natural materials to make handcrafted products.

**Credit must be given to any other valid statements.**

<b>Q.4.2 LEVEL</b>	<b>COGNITIVE SKILLS</b>	<b>WEIGHTING</b>	<b>QUESTIONS</b>	<b>MARKS (10)</b>
<b>Lower Order</b>	Remember, Recall, Recognise, Name	30%	4.2	1
	Understand, Explain, Describe, Classify		4.2	2
<b>Middle Order</b>	Apply, Implement, Organise	40%	4.2	4
<b>Higher Order</b>	Analyse, Compare, Interpret	30%	4.2	1
	Evaluate, Reflect, Judge		4.2	1
	Create, Synthesise, Justify		4.2	1

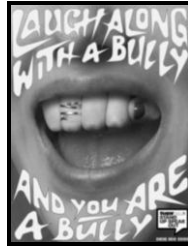
**TOTAL SECTION B: 30**

## SECTION C: DESIGN IN A SOCIOCULTURAL/ENVIRONMENTAL AND SUSTAINABLE CONTEXT

### QUESTION 5 [20 marks]

Answer EITHER QUESTION 5.1 OR QUESTION 5.2.

#### 5.1 (Allocate 20 marks)



##### 5.1.1 (Allocate 3 marks)

The imagery in the poster in FIGURE K above successfully conveys the 'bully' concept through the juxtaposition of the image of the laughing face and the fist that represents the teeth. ✓ The combination of these two images conveys the message that those who watch and laugh are just as guilty as the bully. ✓ The fist coming out of the mouth shows a metal ring on one finger that serves as a visual metaphor which compares the laughing and jeering to being punched with a ringed fist, which is not only painful but also leaves one bruised/scarred. ✓

##### 5.1.2 (Allocate 3 marks)

###### View 1: Yes

Yes, the typography used in figure above successfully conveys the anti-bullying message. The type is white, occupies most of the poster and has sharp knife-like edges. ✓ The typography is also expressive with a hand-rendered quality that lacks the machine precision of symmetry found in digital rendering. ✓ The typography encircles the mouth hence making the mouth the focal point of the poster, as well as emphasising the pain that can be inflicted through words in bullying. ✓ In this way asserting that bullying is not just physical, but is also verbal and action based. ✓

###### View 2: No

The typography dominates the poster in a childlike, ✓ playful way that is extremely difficult to read. ✓ In this view the childlike nature of the typography difficult to reconcile with the imagery and message of the poster, i.e. the female adult hand coming out of the open human mouth appearing to be a visual metaphor of teeth. ✓

**Credit any other valid statements.**

- 5.1.3 **(Allocate 14 marks in total)**  
**(Allocate 7 marks per case study)**  
**Allocate 1 mark for the name of the designer and the name of the product.**

ONE CONTEMPORARY SOUTH AFRICAN DESIGNER/DESIGN GROUP:

Matsidiso, Cape Town. Handmade, shoes and handbags created using leather and other natural fabrics.☑

These shoes are hand made from leather; no two pairs are exactly alike because the leather turns out slightly different with each pair due to different variations, texture and tone that occurs in leather.☑

Matsidiso, The Akeelah (Metallic Gold) ☑

**General aims, influences and sociocultural concerns**

The Matsidiso Akeelah is a metallic gold handmade sandal aimed for adult women.☑ The handmade **influence** of the Akeelah sandal addresses **social responsibility** by creating employment opportunities which empowers individuals with the marketable skill of shoe craftsmanship.☑ In addition, 5 per cent of profits from each shoe sold also goes back to aiding Matsidiso's workers to uplift their lives with a better standard of living.☑ In this way Matsidiso **aims** to improve the **socio-economic** wellbeing of its employees, alleviating poverty and also enabling their workers to better educate their children, live above the bread line and provide shelter and nutritional meals for their families.☑

ONE INTERNATIONAL DESIGNER/DESIGN GROUP:

**Optima KV** design company, **Harnessing the Power of Poo: Pig Waste Becomes Electricity** (Anaerobic bio-digesters that create biogas from hog waste). North Carolina's 1999.☑

Pig farms are a **health** target for environmental lawsuits by neighbours and non-profit groups because of the odour associated with pig waste. ☑ Optima KV **aim** to effectively utilise every bit of what comes off pig farms, in addition to managing the waste product emission which is 65 per cent methane, a highly flammable gas. ☑ Methane is a greenhouse gas 21 times more potent than carbon dioxide which creates GHG [greenhouse gas] offsets, and the renewable energy generated by the system creates renewable energy credits.☑ The need to create an alternative energy source, which cuts electricity costs on the farms also strongly **influenced** the design of anaerobic bio-digesters by Optima KV.☑

Through Optima KV, the waste to fuel project is **aimed** at using pig waste that previously used to pollute rivers and streams.☑ The digesters hold waste in heated, air-tight tanks, which creates ideal growing conditions for bacteria that consume the manure and releases methane



gas.☑ The digesters collect the emitted gas and the operators of the digesters bring that gas to a gas power plant, where it is burned to produce electricity.☑ Optima KV will construct and operate the digesters. ☑The system is not overly complicated and stands to yield many more benefits beyond energy production and environmental protection.☑

The carbon-neutral gas will then flow into a major gas pipeline feeding power plants in the area.☑ Under North Carolina's Renewable Energy and Efficiency Portfolio Standard, the utility is required to supply a portion of their renewable energy from pig waste.

Q.5.1 LEVEL	COGNITIVE SKILLS	WEIGHTING	QUESTIONS	MARKS (20)
<b>Lower Order</b>	Remember, Recall, Recognise, Name	30%	5.1.1 5.1.3	1 4
	Understand, Explain, Describe, Classify		5.1.2	1
<b>Middle Order</b>	Apply, Implement, Organise	40%	5.1.1 5.1.2 5.1.3	2 1 5
<b>Higher Order</b>	Analyse, Compare, Interpret	30%	5.1.2	1
	Evaluate, Reflect, Judge		5.1.2	4
	Create, Synthesise, Justify		5.1.2	1

OR

## 5.2 (Allocate 20 marks)

### 5.2.1 (Allocate 2 marks)



The objects in FIGURE L above are both designs and crafts because they are created using the hand-based traditional technique of beading, combined with metal wire for a contemporary application.☑ The objects are also created with a consideration of appearance, to be aesthetically pleasing ☑ and an emphasis on functionality.☑

**Credit any other valid statements.**

5.2.2 **(Allocate 8 marks) (Allocate 1 mark for name of community that produced the design)**

**Ndebele beadwork:** Ndebele women are renowned prolific beaders.  **Historically** beading was used to create fertility doll, similar dolls are also used by traditional healers.

**Function and the Role:** The fertility dolls were usually created secretly by the maternal grandmother and presented to the young bride when she entered her hut after the marriage ceremony.  Fertility is of major importance to the Ndebele. According to custom, after the birth of the third child the doll must be given away or destroyed. It is considered bad luck to keep the doll any longer.  The dolls had fine beading that displayed a miniature example of an adult woman's beaded wardrobe.  Beadwork is also used to create the thick beaded coils worn on the legs, on the aprons of maiden girls and on the Ndebele marriage blankets and trains.  In this context beadwork is used for ceremonial purposes and as an indication of social or marriage status.

The dolls are made out of beads,  colourful materials,  metal rings and filled with stuffing.

Characteristically these Ndebele dolls usually have izigolwani, large beaded hoops worn around the necks, arms and legs and waist, in addition to neck coils and head bands.  The geometric patterns on the Ndebele beadwork are similar to those located on the Ndebele wall paintings.  The very old Ndebele fertility dolls were short, stubby, and well-rounded, according to traditional customs, the more voluptuous a woman is, the more fertile she is considered to be.  However, the contemporary dolls are slender and taller in comparison and don't have the thick beaded coils on the arms, waist and legs.  In this way, the contemporary dolls are more representational of the human figure.

5.2.3 **(Allocate 10 marks)**



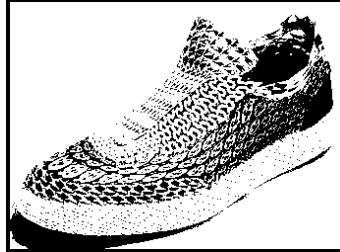
Tsakani Mashaba of Hanethop in Cape Town, **aims** to fuse local materials, ancient African techniques and contemporary design.  Also, her main **aim** is to express African focused ideas using moveable limited edition fashion objects.  Her work is **influenced** by a need to revive indigenous traditional craft practices in South Africa and transform common African art into trendy fashion accessories well sought after in first world countries.

**The Ndebele inspired weekender**, is handmade from tan and white leather.☑ The weekender bag is adorned with patterns from Ndebele wall paintings. ☑ The patterns utilised are a pale yellow, brown, black with a pale blue and occasional pantone blue colours. ☑ The shapes are a contrast of geometric circular and angular shapes.☑

Mashaba works with master crafters and weavers in Johannesburg, Dakar and Cape Town.☑ This provides employment for the abovementioned crafters so that they can provide for their families.☑ Mashaba also uses contemporary application of indigenous traditional crafts as a way of retaining skills in the African continent☑, thereby allowing the African design ecosystem in South Africa to flourish.☑

**Credit any other valid statements.**

Q.5.2 LEVEL	COGNITIVE SKILLS	WEIGHTING	QUESTIONS	MARKS (20)
<b>Lower Order</b>	Remember, Recall, Recognise, Name	30%	5.2.1	1
			5.2.2	1
	Understand, Explain, Describe, Classify		5.2.1	1
			5.2.2	1
		5.2.3	2	
<b>Middle Order</b>	Apply, Implement, Organise	40%	5.2.2	4
			5.2.3	4
<b>Higher Order</b>	Analyse, Compare, Interpret	30%	5.2.2	2
	Evaluate, Reflect		5.2.3	2
	Create, Synthesise, Justify		5.2.3	2

**QUESTION 6****6.1 [20 marks]****6.1.1 (Allocate 4 marks)**

The Adidas/Parley sneaker's manufacturing process and approach can create positive solutions. One of the solutions is to unite metal or **recycled plastic** in a lightweight construction with high mechanical demands.  The process also reduces cost and reduces the carbon footprint associated with manufacturing. Adidas has collaborated with PARLEY to prevent plastic entering our oceans by creating environmentally friendly designs.

Because of Adidas' decision to copy nature and use the concept of **biomimicry**, the sneakers' structural properties can be tailored to meet the exact ideal characteristics, such as strength, weight, flexibility, energy absorption and durability.  Biomimicry is used for the creation of a wide range of materials to create products from medical implants to parts of an aircraft wing.  The sneaker is clearly inspired by the ocean with clear reference to coral, fish scales, fins and fish bone structure, suction cups on octopus tentacles, etc.

**6.1.2 (Allocate 2 marks)**

Non-biodegradable materials do not decompose into the natural environment.  Hence these materials have a negative impact on the environment as they contribute to environmental pollution and is a health hazard.  In this way materials that are non-biodegradable increase our carbon footprint.

**Credit any other valid statements.**

- 6.2 **Allocate 14 marks in total**  
**(Allocate 7 marks per case study)**  
**(Allocate 1 mark to both the name of the designer and name of the product)**

EXAMPLE OF A SOUTH AFRICAN DESIGNER:



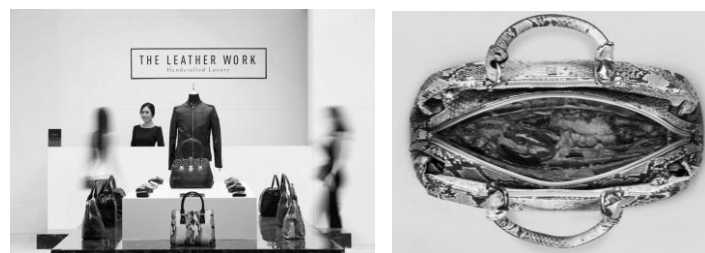
**We Care Collective, the bamboo straw.** ✓

We Care Collective addresses the environmental problem of plastic straw pollution in South Africa as plastic is one of the most enduring threats to our environment. ✓ This is because plastic is non-bio-degradable, it does not disintegrate. ✓ Single-use plastic straws contain BPA and release toxins when they are reused or discarded. ✓

The bamboo straws are a sustainable alternative to the plastic straw. ✓ The bamboo straws are sturdy, can double up as cocktail stirrers and in this way are multifunctional. ✓

These straws are produced from bamboo which is reusable, organic and biodegradable. ✓ Bamboo grows quickly and in this way is a sustainable material, dishwasher safe and affordable as well. ✓ The straws are available in packets of ten, packaged in a biodegradable reusable organic holding bag. ✓ The bamboo straw has a positive impact on the environment because it could potentially reduce the plastic litter and in this way reduce the carbon footprint. ✓

EXAMPLE OF AN INTERNATIONAL DESIGNER:



**The Truth behind Exotic Skins by Ogilvy and Mather, Asia.** ✓

'Ogilvy and Mather' addresses the exploitation of reptile skin for fashion accessories through guerrilla marketing. That is to say, employing shock tactics to evoke a reaction to create an awareness surrounding the exploitation of reptiles for their luxurious, exotic leather skins by the fashion industry, chiefly because the public has no realisation of the amount of suffering reptile endure before turning into shoes, belts and bags. ✓ About 700 000 crocodiles are raised on 22 large-scale and 929 small farms across the country. In the wild, crocodiles can live for up to 80 years. On crocodile farms, however, they are slaughtered for their skins starting at the age of three. ✓

These reptiles are raised in crowded tanks or pools of fetid, stinking water.☑ The animals are shot or crudely bludgeoned with hammers. Snakes are commonly nailed to trees and their bodies cut open from one end to the other as they are skinned alive. Their mutilated innards are then discarded, but because of their slow metabolism, it can take hours for the snakes to die.☑ Lizards are often decapitated, but some still writhe in agony as the skin is ripped from their bodies.☑

The campaign was an exhibition posing as a luxury leather pop-up store in one of Bangkok's hippest retail centres with surprises lurking within.☑ When shoppers opened bags, jackets and other products, they saw an apparent animal heart beating inside, illustrating how many reptiles are slaughtered alive and left to die of dehydration, which can take hours or days.☑ Shop staff was on standby to provide tranquilisers and more information about the exhibition and campaign details.☑

**Credit any other valid statements.**

Q.6 LEVEL	COGNITIVE SKILLS	WEIGHTING	QUESTIONS	MARKS (20)
<b>Lower Order</b>	Remember, Recall, Recognise, Name	30%	6.1.1	1
			6.2	2
	Understand, Explain, Describe, Classify		6.1.1	1
			6.1.2	2
<b>Middle Order</b>	Apply, Implement, Organise	40%	6.1.1	2
			6.2	6
<b>Higher Order</b>	Analyse, Compare, Interpret	30%	6.2	2
	Evaluate, Reflect, Judge		6.2	2
	Create, Synthesise, Justify		6.2	2

**TOTAL SECTION C: 40**  
**GRAND TOTAL: 100**