OCR
Oxford Cambridge and RSA

GCSE

Design and Technology: Product Design

Unit **A554**: Designing Influences

General Certificate of Secondary Education

Mark Scheme for June 2018

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This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by examiners. It does not indicate the details of the discussions which took place at an examiners' meeting before marking commenced.

All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the report on the examination.

Annotations

Annotation	Meaning
	Blank Page – this annotation **must** be used on all blank pages within an answer booklet (structured or unstructured) and on each page of an additional object where there is no candidate response.
	Green Tick - Creditable point
	Seen - Use to indicate that an answer has been seen. Only to be used where no credit is given.
L1	Level 1 Use in banded mark scheme responses only
L2	Level 2 Use in banded mark scheme responses only
L3	Level 3 Use in banded mark scheme responses only

Subject Specific Marking Instructions

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Mark</th><th>Guidance</th></tr>
<tr><td>1</td><td>(a)</td><td></td><td>Functional requirements:
long/grip/comfortable/ovenproof handle, knob big enough to hold, appropriate weight to pick up, tight fitting lid, lid fits well, insulation handle, conductive pan, volume of pot, hole on handle for storage, lightweight, non-toxic/corrosive materials, dishwasher, safe, washable, heat up food, flat base/surface, see-through/glass lid

Generic requirements: easily washed, safe to use, easy to store, hold contents</td><td>3</td><td>Award 1 mark for each correct answer

Labelled parts in diagram must be qualified/exemplified:

Small vent holes to allow the steam to escape.

Repeat of labels (one word answer) attracts no credit.</td></tr>
<tr><td>1</td><td>(b)</td><td>(i)</td><td><table><tr><td></td><td colspan="2">Material property</td></tr><tr><td></td><td>Heat resistant</td><td>Heat conductor</td></tr><tr><td>Handle</td><td>✓</td><td></td></tr><tr><td>Lid Knob</td><td>✓</td><td></td></tr><tr><td>Saucepan</td><td></td><td>✓</td></tr></table></td><td>3</td><td>Award 1 mark for each correct answer

Handle - Heat resistant
Lid knob - Heat resistant
Pot - Heat conductor</td></tr>
<tr><td>1</td><td>(b)</td><td>(ii)</td><td>A plastic handle e.g.:
insulates users from heat/burns to the hand (1)
prevents burns/scolds (1)</td><td>1</td><td>Award 1 mark for correct safety benefit to the user

Do not accept ‘hot to handle’.</td></tr>
</table>

Question			Answer	Mark	Guidance
1	(c)		Up to three marks for a description e.g.: Reduction of material amount Substitute lower cost materials Eliminate unnecessary product features Use less components Merge parts into a component, Injection mould one part Design product to make production quicker Design product to use less processes Reduce complexity of design Use more technology, making components redundant Buy in bulk Use robots/more efficient cost effective manufacture More energy efficient equipment Manufacture abroad Use locally sourced materials	3	1 mark each, up to two given points (2) plus 1 mark for one point described. **OR** 1 mark for one given point plus up to 2 marks for a **detailed** description. E.g. Manufactured in less developed countries (1) because cheaper labour (1) and cheaper materials (1) Maximum of two marks for three or more separate creditable points Credit only points about the making of the product, not the packaging/labelling. Do not reward answers referring to recycled materials.

Question			Answer	Mark	Guidance
2	(a)		e.g.: Low base, back rest/arm rests that fold up/down, easy access shopping basket, detachable shopping basket, swivel arm rests- ease of access to seat, adjustable steering column, non-slip grip handles, removable batteries, electric, simple controls, accelerator on the handle, easy steering, arm rests, four wheels for stability, seat, slim design	3	Award 1 mark for each correct answer Answers must relate to ease of use. Do not reward references **to comfort** (e.g. padded seat) as this doesn't make the mobility scooter any more or less **easy** to use.
2	(b)	(i)	Height of person, hand size, finger length, palm size length of leg/arm/reach, measurement of a hand, leg, body part.	1	Award 1 mark for correct specific anthropometric measurement answer This has nothing to do with the sizes of the scooter, only reward marks for sizes of the human body.
2	(b)	(ii)	e.g.: Size, positions, textures, direction of movement, shape, contrasting colours suitable for partially sighted, low noise, minimal vibration. Seat, cushion, padding, chair, backrest, arm rests, material used, non-slip foot rest, easy reach controls/basket	1	Award 1 mark for each correct feature Answers must refer to a specific feature that makes it more **comfortable** for the user.
2	(c)		e.g.: Smaller wheels enable the scooter to turn in a smaller circle (1) making it easier to turn the scooter around/easier to manoeuver (1). Smaller wheels brings scooter base lower to the ground (1), making it easier for user to get into their seat (1), wheels not invasive in shops(1)	2	1 mark for reason plus 1 mark for explanation. Answers must reference small wheels in fig.2. Answers referring to big wheels attract no marks.

Question			Answer	Mark	Guidance
2	(d)		inclusive e.g.: • everyone can use it safely/easily/with dignity • no disabling barriers that exclude some people responsive • the design takes into account different people's needs/wants • Eliminate unnecessary complexity • Provide fail safe features flexible • different people can use it in different ways • More than one solution to help everyone's needs and recognising that one solution may not work for all • Use different communication types: pictorial, verbal, tactile convenient • everyone can use it without much effort	3	1 mark for a suitable inclusive example, specifically design for people with diverse needs. Up to two marks for given points for explanation. Do not reward marks for any repetition of stem of question: can be used by all people, use by wide range of people, meet needs of diverse range of people, inclusive design. e.g.: Mobile phones for visually impaired(1) have larger buttons/numbers(1) which makes keying in numbers easier(1) Scissors with larger grips(1) which make it easier to hold for people(1) 

Question			Answer	Mark	Guidance
3	(a)		e.g.: Easily and conveniently recharge with a battery charger and mains electricity No need to replace batteries regularly Save money - no additional costs of buying batteries Produce less waste/disposal of fewer batteries/less chemical pollution, for environmentally conscious users Reused hundreds of times Output stays constant till almost flat High drain products can be recharged Lithium ion rechargeable batteries more lightweight	3	Award 1 mark for each correct answer Any answers referencing reliability or durability gain no marks.
3	(b)		e.g.: Increased components Space/size and weight restrictions Weight addition to transporting product Hazardous substances used in production Additional production processes Extended producer responsibility/end of life directives-disposal responsibility of manufacturer Have to provide a charger Aesthetics Ergonomics Material	2	Award 1 mark for each correct answer
3	(c)		Anaerobic digestion – fermenting organic waste produce gas Geothermal - cooling system that transfers heat from the ground Hydroelectricity - dam and reservoir, drives turbine Solar - light and heat from the Sun, photovoltaics Tidal/wave power- converts the energy obtained from tides Wind – turbines turn due to wind and make electricity	2	1 mark for stating an environmentally friendly method plus 1 mark for explanation of how the energy is collected.

Question			Answer	Mark	Guidance
3	(d)		e.g.: Develop a green brand in addition to its other brands Run adverts of green features in green focussed media Switching from one raw material supplier to one with more eco-friendly processes Life Cycle Analysis to identify and eliminate eco-harm Re-designing logos and corporate image Pursue environmental and social change improvements and encouraging customers to do so as well Customers make cost savings through energy efficient features highlighted More concentrated forms of product Minimising packaging Remanufactured/refurbished products More efficient production process, energy use Re-use of recycled products Funding eco-organisations Products which can be repaired/ changing broken units Packaging - e.g. recycled paper/card pulp shapes of Removal plastic film on packaging through which you can see the product. Manufacture closer to resources and markets	3	1 mark each, up to two given points (2) plus 1 mark for exemplification/explanation. **OR** 1 mark for one given point plus up to 2 marks for **detailed** exemplification/explanation.

Question			Answer	Mark	Guidance
4	(a)*		**Candidates may continue their answer at the bottom of the sheet or at the bottom of the next sheet or onto an additional page.** **Examiners must check for any additional creditable points.** Continuous prose – question is marked for quality of written communication. Only <u>one</u> Trend Setter must be referred to. If the answer relates only to the Iconic product then only award Level 1. There is no credit for mention of the Trendsetter by name or the name of the Iconic Product, as these are given in the question. Bullet points or list/sequence of discrete points maximum of level 1. **Typical connectives that may be used to link points of discussion:** so that, because, therefore, however, although, but, consequently, alternatively, whenever, besides, moreover, since, whereas, despite.	6	**<u>Level 3 (5 to 6 marks)</u>** Detailed understanding of the influence of the Trend Setter. Specialist terms used appropriately and correctly. Information presented in structured format. Accurate use of grammar, punctuation and spelling with few minor errors. Range of well-made points that mostly relate to the Trendsetter and with reasoned explanations through discussion and justification **<u>Level 2 (3 to 4 marks)</u>** Reasonable understanding of the influence of the Trend Setter. Some use of specialist terms, not always used appropriately. Information presented for most part in a structured format. Occasional errors in grammar, punctuation and spelling. Range of points adequately made with some relationship to the Trendsetter, with explanations and some justification **<u>Level 1 (1 to 2 marks)</u>** Some understanding of the influence of the Trend Setter. Little or no use of specialist terms. Answers ambiguous or disorganised. Errors of grammar, punctuation and spelling. Limited range of points made with some relation to the Trendsetter and with limited justification **<u>Level 0 (0 marks)</u>** No response or no response worthy of credit.

Question			Answer	Mark	Guidance
4	(b)		Content of answer refers to creditable points about the **influence** of the Iconic Product with reference to aesthetics and/technology. These may be discrete points referring to different aspects of the Iconic Product, or they may be linked points that discuss, explain, exemplify, qualify or describe one aspect of the impact or influence. Answers must relate to **what** was so different about the Iconic Product and or **why** the Iconic Product has been so influential. **Typical connectives that may be used to link points of discussion:** so that, because, therefore, however, although, but, consequently, alternatively, whenever, besides, moreover, since, whereas, despite. **4 x 1**	4	Quality of written communication is **not** assessed in this part of Question 4. This can be a different Iconic Product to that of the Trendsetter chosen in part (a). There is **no credit** for mention of the Trendsetter by name or the name of the Iconic Product, as these are given in the question. Some answers may provide more than two creditable points for each or either reason. Credit the points wherever they are presented.

Question			Answer	Mark	Guidance
4	(a) (b)		**OPTION 1 (a) 'David Constantine- Motivation'** David Constantine, Aged just 21, was involved in a diving accident which left him quadriplegic. Lengthy period at the Stanmore Rehabilitation Unit, taught himself to type using Perspex splints which locked both his hands and wrists rigid Oxford Polytechnic to read for a Bachelor of Science degree in Computer Studies, Accounting and Finance gaining a class 2:1 degree in 1986 Began a career with IBM at Basingstoke. While he was there he also saw the work of the design department and at this point David 'discovered' industrial design. Industrial Design Master of Arts programme at the Royal College of Art. He studied there from 1988-90 and was awarded an M.A. with distinction. At RCA that David Constantine met Simon Gue and together entered a competition to design a wheelchair and were given three weeks to do it in. They came first, winning the Frye Memorial Prize, and along with Richard Frost, used the money to go to Bangladesh to see if their wheelchair design was appropriate. The Centre for the Rehabilitation of the Paralysed, having seen the design, invited them back after completion of their studies, and thus in 1991, the first	6 4	**OPTION 1 (b) Motivation Multisport Wheelchair**  The Motivation Multisport Wheelchair is an affordable, entry level dedicated sport style wheelchair designed to be used by individuals or sport clubs, and is ideal for basketball, tennis, rugby league, handball, badminton, dance and many other activities. • The wheelchair is available in four different widths: 300 mm (12"), 350 mm (14"), 400 mm (16"), 450 mm (18"). • Each of the four width sizes of frame, come in a different colour, to allow quick identification of sizes for athletes and coaches, within a club environment. • It has been designed according to the International Wheelchair Basketball Federation regulations and in conjunction with the International Tennis Federation. • It utilises two sport mini castor wheels at the front and one sport anti- tip wheel at the rear. The wheelchair is equipped with performance sport rear wheels in order to

Question			Answer	Mark	Guidance
			Motivation Project was born. That same year David won the Snowdon Special Award for services to disability and the 'Against All Odds' Award from the American Paralysis Society. Motivation, Mr Chancellor, is a Charitable Trust and Company Limited by Guarantee, founded by David Constantine, and his colleagues, some 10 years ago, to design specialist equipment, particularly wheelchairs, for people with severe mobility problems. At least, that is how it started. It does much more than that now, and has greatly expanded its range of services. Currently based at the Brockley Academy near Bristol, Motivation has a presence in over 20 countries across the five continents of the world. Person of the Year Award from the Royal Association for Disability and Rehabilitation followed in 1992, the year the 'Mistral' wheelchair was designed, and a wheelchair production unit established in Poznan, Poland. 1993 saw the design of the 'Mekong' three-wheeled wooden wheelchair (which was 1996 finalist in the BBC Design Awards and 2001 Worldaware Business Award for Innovation) and the design of the hand propelled tricycle attachment; in addition to the setting up of the manufacturing unit in Cambodia. Additionally, a wheelchair production unit was established in Bucharest, Romania and the first technology transfer project started.		provide good manoeuvrability on the court. • The wheelchair has been designed so that parts are easy to replace or repair and uses common wheel and bearing sizes. • The packaging is designed for easy disassembly for recycling or reuse. • Every wheelchair is supplied with a single layer foam cushion. Each cushion has a cover. • Every wheelchair comes with 4 body straps (Velcro fastening system) to provide a wide range of support options and adjustment. The straps included are: Hip strap, Knee strap, Foot strap and Ankle strap. • Every wheelchair comes with a maintenance toolkit as standard. • Quick release rear wheels allow for more efficient storage and transport. • Spare parts for this product are also available for purchase from Motivation.

Question			Answer	Mark	Guidance
			In Indonesia, a production unit, manufacturing mainly `active style` and tennis chairs and a rehabilitation course opened in Jakarta in 1994. Motivation also introduced wheelchair tennis. The unit now produces a substantial number of tennis wheelchairs, which are in demand throughout Asia. Many new projects followed:- Russia 1994, Malaysia, Lithuania and Nicaragua 1995, Albania and Afghanistan 1996, Sri Lanka 1997, El Salvador 1998, Tanzania 1999. In addition, returning to Bangladesh and Sri Lanka to expand and add to projects with upgraded and new designs, including a further project for children with Cerebral Palsy. Motivation's work is not only about its 25 different wheelchair designs. Its activities encompass employment for disabled people, training of technical staff, training for occupational and other therapists, design of specialist seating systems, education courses in life and personal skills, development of primary health care products, disability awareness training and much more besides. In all of this, a great deal of care has been, and is taken, to ensure that in manufacture, environmentally friendly and sustainable low cost local materials are used, that local people and users have viable ongoing programmes and production units, with continuing technical support and advice where necessary. Providing the appropriate wheelchair with the right training programme and supplementary equipment can of course often make all the difference to the life of		

Question			Answer	Mark	Guidance
			disabled people. Little wonder that David Constantine, in addition to those awards already mentioned, received a Paul Harris Award from Rotary International in 1995, was made a Honorary Fellow of Writtle College in 1996, and an Honorary Fellow by the Royal College of Art in 1999; and that in the same year the Royal Geographical Society and Discovery Channel made him the recipient of their Inspiration Award. Yet, Motivation is not the only facet of David Constantine's varied life. He is a photographer of note, holding exhibitions in the U.K and USA. He undertakes speaking engagements at conferences and in colleges and schools, as well as to Rotary and Lions clubs and other organisations. David serves as a Trustee of the Design Museum and is a member of the Leonard Cheshire International Committee. He has also been a member of the BBC Appeals Committee since 1999. Mr. Chancellor, I present to you David Peter Constantine: designer, photographer, award winner, globetrotter, motivator extraordinaire and bringer of hope to many thousands of disabled people around the world, as eminently worthy of the degree of Master of Science honoris causa.		

Question			Answer	Mark	Guidance
4	(a) (b)		**OPTION 1 (a) Light Emitting Diodes(LED)** Early LEDs were often used as indicator lamps for electronic devices, replacing small incandescent bulbs. They were soon packaged into numeric readouts in the form of seven-segment displays and were commonly seen in digital clocks. Recent developments in LEDs permit them to be used in environmental and task lighting. LEDs have many advantages over incandescent light sources including lower energy consumption, longer lifetime, improved physical robustness, smaller size, and faster switching. Light-emitting diodes are now used in applications as diverse as aviation lighting, automotive headlamps, advertising, general lighting, traffic signals, camera flashes, and lighted wallpaper. As of 2016, LEDs powerful enough for room lighting remain more expensive, and require more precise current and heat management, than compact fluorescent lamp sources of comparable output. They are more energy efficient and have fewer environmental concerns linked to their disposal. LEDs have allowed new displays and sensors to be developed. Their high switching rates are also used in advanced communications technology. A light-emitting diode (LED) is a two-lead semiconductor light source. It is a p–n junction diode, which emits light when activated.	6 4	**OPTION 1 (b) LED Automotive lamps** LEDs are being used with increasing frequency in automotive lamps. They offer very long service life, extreme vibration resistance, and can permit considerably shallower packaging compared to most bulb-type assemblies. LEDs also offer a potential safety benefit when employed in stop lights, because when power is applied they rise to full intensity approximately 250 milliseconds (¼ second) faster than incandescent bulbs. Provides drivers with increased time to react to the appearance of the stop lamps. LEDs were first applied to automotive lighting in centre high mount stop lamps beginning in the late 1980s. Adoption of LEDs for other signal functions on passenger cars is gradually increasing with demand for the technology and related styling updates. The 2002 Kia Opirus/Amanti was an early adopter of LED front turn signals. The 2007 Audi R8 sports car uses two strips of optically focused high-intensity LEDs for its daytime running lamps. The Mercedes-Benz S-Class (W222) has no non-LED lamps at all, not even in the most basic trim level. The commercial vehicle industry has rapidly adopted LEDs for virtually all signaling and marking functions on trucks and buses, because in addition to the fast rise time and concomitant safety benefit, LEDs' extremely long service life reduces vehicle downtime. LED lamps are used for flashing beacon lights on

Question			Answer	Mark	Guidance
			When a suitable voltage is applied to the leads, electrons are able to recombine with electron holes within the device, releasing energy in the form of photons. This effect is called electroluminescence, and the color of the light is determined by the energy band gap of the semiconductor. An LED is often small in area (less than 1 mm^2) and integrated optical components may be used to shape its radiation pattern. Appearing as practical electronic components in 1962, the earliest LEDs emitted low-intensity infrared light. Infrared LEDs are still frequently used as transmitting elements in remote-control circuits, such as those in remote controls for a wide variety of consumer electronics. The first visible-light LEDs were also of low intensity and limited to red. Modern LEDs are available across the visible, ultraviolet, and infrared wavelengths, with very high brightness.		vehicles such as maintenance trucks. The energy-efficient nature of the LED source allows the engine to remain turned off but the light to continue to flash.

Question			Answer	Mark	Guidance
4	(a) (b)		**OPTION 1 (a) Pierre Cardin**  Pierre Cardin is an Italian-born French fashion designer. Cardin is known for his avant-garde style and his Space Age designs. He prefers geometric shapes and motifs, often ignoring the female form. He advanced into unisex fashions, sometimes experimental, and not always practical. He founded his fashion house in 1950 and introduced the "bubble dress" in 1954. Pierre Cardin was also designated UNESCO Goodwill Ambassador in 1991.[2] In 2009, Pierre Cardin was nominated Goodwill Ambassador of the Food and Agriculture Organization of the United Nations (FAO). Cardin, aged 14, worked as a clothier's apprentice, learning the basics of fashion design and construction.	6 4	**OPTION 1 (b) Avante Garde -space age dresses**  Designs contemporary and unusual. Use of plastics, silver vinyl, industrial zippers Architectural shapes, geometric details using diamond, circle or rectangular shapes as major design elements so much that additional jewelry was deemed unnecessary. Inspired by space travel and an interest in microscopy. Clothes invented for a life that doesn't exist yet – the world of tomorrow. The 1960s brought about the possibility of travel to space. This greatly influenced Cardin's designs and led him to create his iconic "Space Age Look," the idea of dressing for the future. He incorporated metallic fabrics and Space Age textiles such as vinyl into his designs.

Question			Answer	Mark	Guidance
			In 1939, he left home to work for a tailor in Vichy, where he began making suits for women. During World War II, he worked in the Red Cross, launching humanitarian interests that continue to this day. Cardin moved to Paris in 1945. There, he studied architecture and worked with the fashion house of Paquin after World War II. He worked with Elsa Schiaparelli until he became head of Christian Dior's tailleure atelier in 1947, but was denied work at Balenciaga. Cardin founded his own house in 1950. His career was launched when he designed about 30 of the costumes for "the party of the century", a masquerade ball at Palazzo Labia in Venice on 3 September 1951, hosted by the palazzo's owner, Carlos de Beistegui. He began with haute couture in 1953. Cardin was the first couturier to turn to Japan as a high fashion market when he travelled there in 1959. In 1959, he was expelled from the Chambre Syndicale for launching a ready-to-wear collection for the Printemps department store as the first couturier in Paris, but was soon reinstated. Pierre Cardin - Cobra Table and Chair During the 1960s, Cardin began a practice that is now commonplace by creating the system of licences that he was to apply to fashion. A clothing collection launched around this period surprised all by displaying the designer’s logo on the garments for the first time.		Some of his fashions were made entirely of plastic and metal. He used large industrial zippers and even designed helmet-like hats influenced by astronauts’ headgear. In 1968, he created his own fabric called “Cardine,” a bonded, uncrushable fiber incorporating raised geometric patterns.

Question			Answer	Mark	Guidance
			Cardin resigned from the Chambre Syndicale in 1966 and began showing his collections in his own venue, the "Espace Cardin" (opened 1971) in Paris, formerly the "Théâtre des Ambassadeurs", near the Embassy of the United States in Paris. The Espace Cardin is also used to promote new artistic talents, like theater ensembles, musicians, and others. He was also contacted by Pakistan International Airlines to design uniforms for the flag carrier. The uniforms were introduced in 1966 to 1971 and became an instant hit. In 1971, Cardin redesigned the Barong Tagalog, a national costume of the Philippines by opening the front, removing the cuffs that needed cufflinks, flaring the sleeves, and minimizing the embroidery. It was also tapered to the body, in contrast with the traditional loose-fitting design; it also had a thicker collar with sharp and pointed cuffs. A straight-cut design was favored by President Ferdinand Marcos. Cardin was a member of the Chambre Syndicale de la Haute Couture et du Prêt-à-Porter from 1953 to 1993. Like many other designers today, Cardin decided in 1994 to show his collection only to a small circle of selected clients and journalists. After a break of 15 years, he showed a new collection to a group of 150 journalists at his bubble home in Cannes. Cardin entered industrial design by developing thirteen basic design "themes" that would be applied to various products, each consistently recognizable and carrying his name and logo. He expanded into new markets that "to most Paris fashion designers, it is rank heresy." The business initiatives included a contract with American Motors Corporation (AMC).		

Question			Answer	Mark	Guidance
			Following the success of the Aldo Gucci designed Hornet Sportabout station wagon interiors, the automaker incorporated Cardin's theme on the AMC Javelin starting in mid-1972. This was one of the first American cars to offer a special trim package created by a famous French fashion designer. It was daring and outlandish design "with some of the wildest fabrics and patterns ever seen in any American car". The original sales estimate by AMC was for 2,500 haute couture "pony" and muscle cars. The special interior option was continued on the 1973 model year Javelins. During the two model years, a total of 4,152 AMC Javelins received this bold mirrored, multi-colored pleated stripe pattern in tones of Chinese red, plum, white, and silver that were set against a black background. The Cardin Javelins also came with the designer's emblems on the front fenders and had a limited selection of exterior colors (Trans Am Red, Snow White, Stardust Silver, Diamond Blue, and Wild Plum) to coordinate with the special interiors. However, 12 Cardin optioned cars were special ordered in Midnight Black paint. Continuously fascinated by geometric shapes, in 1975, Cardin applied his fetish for the bubble to a monumental domestic work which would become Le Palais Bulles (the Bubble House), along with the help of architect Antti Lovag. Cardin furnished the Bubble House with his original creations. The curves of the Bubble House extend over 1,200 square metres and contain ten bedrooms decorated by contemporary artists, as well as a panoramic living room. Cardin bought Maxim's restaurants in 1981 and soon opened branches in New York, London, and Beijing (1983). A chain of Maxim's Hotels are now included in		

Question			Answer	Mark	Guidance
			the assets. He has also licensed a wide range of food products under that name. During the 1980s and until the mid-1990s, he supported a French Press organization for Music-hall, Circus, Dance and Arts presided by a well known journalist in France, Jacqueline Cartier, with authors or notable personalities as Guy des Cars, Francis Fehr, Yves Mourousi and Jean-Pierre Thiollet. In 2001, Cardin purchased the ruins of the castle in Lacoste, Vaucluse that was once inhabited by the Marquis de Sade; he has partially renovated the site and holds music or dance festivals (particularly with Marie-Claude Pietragalla) there.[14] Cardin also owns a palazzo in Venice named Ca' Bragadin. Although Cardin has claimed in several interviews that this house was once owned by Giacomo Casanova, in reality it was the home of Giovanni Bragadin di San Cassian, Bishop of Verona and Patriarch of Venice.		

Question			Answer	Mark	Guidance
4	(a) (b)		**OPTION 1 (a) Robert Sabuda** Robert James Sabuda is a leading children's pop-up book artist and paper engineer. Paper Engineer Robert Sabuda is a pioneer in the field of Children's Pop-Up Books. Since 1994, when he published his first title "The Christmas Alphabet," Sabuda has not only been pushing the envelope and raising the bar in pop-up publishing, but he has virtually created his own genre. Sabuda's books, ranging from classic children's novel adaptations to educational non-fiction titles to ABC books all feature beautifully drawn illustrations in vibrant colors combined with innovative pop-up engineering. His recent books, such as those describing the stories of *The Wonderful Wizard of Oz* and *Alice in Wonderland*, have been well received and critically acclaimed. Readers unclip the panels and open up the text to read the story and find that the panels, too, have their own smaller pop-ups folded in. This method of putting the text in panels on the outside of the pages is an original Sabuda idea and is done only in his pop-up books. Skilled as an artist. His specific interest in 3-D paper engineering (i.e., pop-up books) was sparked by a book he received that was illustrated by Vojtěch Kubašta. His interest in children's book illustration began with an internship at *Dial Books for Young Readers* while attending the Pratt Institute. Initially working as a	6 4	**OPTION 1 (b) Children's pop-up books** The term pop-up book is often applied to any three-dimensional or movable book, although properly the umbrella term *movable book* covers *pop-ups*, *transformations*, *tunnel books*, *volvelles*, *flaps*, *pull-tabs*, *pop-outs*, *pull-downs*, and more, each of which performs in a different manner. Also included, because they employ the same techniques, are three-dimensional greeting cards. Design and creation of such books in arts is sometimes called "paper engineering". This usage should not be confused with traditional paper engineering, the engineering of systems to mass-produce paper products. The artistic aspect of paper engineering is related to origami in that the two arts both employ folded paper. However, origami in its simplest form doesn't use scissors or glue and tends to be made with very foldable paper; by contrast, pop-ups rely more on glue, cutting, and stiff card stock. What they have in common is folding. Animated books combine three elements: story, colored illustrations which include text, and "two or more animated illustrations with their movement mechanisms working between a doubled page.". In 1938, Julian Wehr's animations for children's books were patented as "moving illustrations" that move the picture up and down and horizontally at the same time with a single movement. Transformations show a scene made up of vertical slats. When a reader pulls a tab on the side, the slats slide under and over one another to "transform" into a

Question			Answer	Mark	Guidance
			package designer, he illustrated his first children's book series, of "Bulky Board Books", in 1987. Sabuda takes the concept of interpreting text in an artistic way one step beyond illustration, making it not just an artistic rendering of a scene from a text, but a larger-than-life, three-dimensional pop-up illustration of that scene. It's almost like reading your favorite book and watching a movie of the book at the same time. The text and the visual are combined to enhance the experience and give a more well-rounded, cohesive whole. Wide recognition only came his way after he started designing pop-up books for children in 1994. Sabuda has experimented with modes of illustration in a conventionally conservative genre, using techniques including: • faux stained glass (Arthur and the Sword) • batik (Blizzard's Robe) • papyrus-textured illustrations (Tutankhamen's Gift) • murals (Saint Valentine) Sabuda presently works from his studio in New York City and is involved in a wide variety of projects that involve movable paper. Released a video of his working style. Sabuda has also been awarded the *Meggendorfer Prize* three times, an award instituted by the *Movable Book Society of America* in honor of German illustrator Lothar Meggendorfer.		totally different scene. Ernest Nister, one of the early English children's book authors, often produced books solely of transformations. Many of these have been reproduced by the Metropolitan Museum of Art. Volvelles are paper constructions with rotating parts. An early example is the *Astronomicum Caesareum*, by Petrus Apianus, which was made for the Holy Roman Emperor Charles in 1540. The book is full of nested circular pieces revolving on grommets. Tunnel books (also called peepshow books) consist of a set of pages bound with two folded concertina strips on each side and viewed through a hole in the cover. Openings in each page allow the viewer to see through the entire book to the back, and images on each page work together to create a dimensional scene inside.

Question			Answer	Mark	Guidance
			He is a multiple No.1 New York Times best-selling children's book creator and has over five million books in print published in over 25 languages!		

Question			Answer	Mark	Guidance
4	(a) (b)		**OPTION 1 (a) Vegan diet** Veganism is both the practice of abstaining from the use of animal products, particularly in diet, and an associated philosophy that rejects the commodity status of animals. A follower of either the diet or the philosophy is known as a *vegan*. Dietary vegans refrain from ingesting animal products. This means avoiding not only meat but also egg and dairy products and other animal-derived foodstuffs. Some dietary vegans choose to wear clothing that includes animal products (for example, leather or wool). The term *ethical vegan* is often applied to those who extend the philosophy beyond diet into other areas of their lives. This philosophy means opposing the use of animal products for any purpose. *Environmental veganism* refers to avoiding animal products on the premise that harvesting or industrial farming of animals is environmentally damaging and unsustainable. The term *vegan* was coined in 1944 by Donald Watson when he co-founded the Vegan Society in England. At first this meant "non-dairy vegetarian" and later "the doctrine that man should live without exploiting animals".[17] Interest in veganism increased in the 2010s; more vegan shops opened, and vegan options became increasingly available in more supermarkets and restaurants in many countries. Vegan diets tend to be higher in dietary fiber, magnesium, folic acid, vitamin C, vitamin E, iron, and phytochemicals, and lower in dietary energy, saturated fat, cholesterol, long-chain omega-3 fatty acids, vitamin D, calcium, zinc, and vitamin B_{12}.	6 4	**OPTION 1 (b) Green smoothies** These came into play around 2009 – 2010 (for the mainstream anyway) and were one of the best ways possible to inspire people to “get in those greens” a bit more often. They were the only way we learned to actually enjoy greens, and who could argue the fact they’re incredibly convenient. Green smoothies made of leafy greens, fruits like berries, and possibly superfoods, non-dairy milk or non-dairy yogurt, flax, chia, and plant-based protein powders are some of the most popular combinations and a great way to get healthy foods into one meal. They have changed the way the world looks at a high-speed blender . Green smoothie recipes: Organic Burst Smoothies, Ultra Queen K Performance Blend, Mint Cacao Kiss, Energy Boosting Vegan Protein Shake, and Green Superfood Detox Smoothie. How to Make Smoothie Prep Jars to Save Time, The Best Order of Ingredients to Make a Superfood Smoothie, and The Best Tips to Create Maximum Flavor in Your Superfood Smoothies.

Question			Answer	Mark	Guidance
			Well-planned vegan diets can reduce the risk of some types of chronic disease including heart disease. The vegan diet became increasingly mainstream in the Western world in the 2010s. Chain restaurants began marking vegan items on their menus, and supermarkets improved their selection of vegan processed food. The global mock-meats market increased by 18% between 2005 and 2010. Other vegan foods have also grown in sales. In the UK the plant milk market increased by 155% in two years, from 36 million litres in 2011 to 92 million in 2013. The European Parliament defined the meaning of *vegan* for food labels in 2010, in force as of 2015. Celebrities, athletes and politicians adopted vegan diets, some seriously, some part-time.] In recent years, some in America have promoted veganism as "glamorous" and trendy, to counter the image of self-deprivation projected by vegan straight edges and animal rights activists.		

Question			Answer	Mark	Guidance
5	(a)		**Specification** Specification contains statements that **could relate to any item.** (0) Specification that may be **vague/incomplete or repeated** from the question(1) Specification that gives **limited design requirements**(2) Adequate specification that gives **some key design requirements** (3) Detailed specification gives **key design requirements** (4)	4	"It must be colourful" VAGUE "It must use a range of bright colours" ADEQUATE "It must use bright colours such as orange and turquoise" DETAILED **Child's push toy** - *Stable, lightweight, moveable, robust to withstand rough play, gripable* **Window display** – *Ability to store and display text and pictures, create movement of info, adjustable by shop assistant, can be easily viewed from outside pavement* **Avant-garde uniform** – *Include: metallic, modern, contrasting colours, comfortable to wear in a service role, easily washed, stain resistant* **Pop-up information leaflet** – *Pop up animals which create movement, colours and shapes which appeal to children of 5-10 years old, A5 size to be easily handled, can be folded away and fit into pocket* **Vegan meal deal** – *Only includes: pulses, vegetables – no meat or dairy products, production of food does not have detrimental effect on environment, high in dietary fiber, folic acid, vitamins, iron and lower in dietary energy, saturated fat, cholesterol, omega-3 fatty acids*
5	(b)		**Initial ideas** Only **one** sketched solution with **no** accompanying notes (1) **One** sketched solution **with** accompanying notes (2)	6	**Marks can be awarded for addressing the specification points irrespective of the quality of the candidate's specification points given in (a).** **One word** labels can identify and name, features on a sketch: e.g. base, aluminium, pattern, seam.

Question			Answer	Mark	Guidance
			Two or more solutions with **no** accompanying notes (3) **Two or more solutions** with accompanying notes (4) A **range** of different ideas that **broadly address** the specification points (5) A **range** of different ideas showing a creative approach that **fully address** the specification points (6)		**Two and three word** labels can qualify the feature: e.g. handle of wood, stable base. **Notes** are complete statements that can explain, justify, exemplify and quantify the feature: e.g. 3mm red acrylic will be used for the sides and top. Dimensions on a drawing or sizes stated, and weights or quantities of ingredients come under the heading of notes. ***Different ideas*** refers to: 1. whole solutions or parts of a solution. 2. conceptually different thinking. 3. not just variations on a theme. **Addressing specification points:** 1. may be explicitly evidenced in the notes. 2. implicitly evidenced in the idea. 3. specification points need to be evidenced only once each, in any of the notes or the ideas. **Creative approach** to designing is judged in the context of an examination situation with strictly limited time. Do the ideas impress you enough for just ten minutes work from a 15 yr old?
5	**(c)**		**Development of ideas – <u>must</u> reflect the product focus** Presents limited improvements/developments of ideas with little if any consideration of materials and construction. Developed idea does not fully address the design need. **(0-2 Marks)**	6	**In this part candidates must address the requirements of the *"design need in the situation".*** If **both** requirements of the design need are not met the maximum available is **3 marks**. **1**. Child's push toy that develops balance **and** walking skills

Question			Answer	Mark	Guidance
			Presents some improvements/developments of ideas with some consideration of materials and construction. Developed idea addresses some requirements of the design need. **(3-4 Marks)** Presents detailed improvements/developments of ideas with thorough consideration of materials and construction. Developed idea fully meets the requirements of the design need. **(5-6 Marks)**		**2**. A full colour LED display **and** changeable window display **3**. A futuristic styled uniform **and** comfortable working for service staff **4.** 3D pop-up leaflet **and** for a children's book about animals **5**. Vegan suitable **and** meal deal packaged Candidates should show **any** (not all) relevant **details** for manufacture: • materials/ingredients/components. • sizes / dimensions / quantities, • methods / joining / mixing techniques, • tools / equipment. To obtain full marks candidates must consider their own specification.
5	**(d)**		Evaluation contains vague statements that could relate to any item. **(0 marks)** **Limited** evaluation of **how** their design meets their specification at a superficial level. **(1 Mark)** **Reasonable** evaluation considering **how** their design meets the specification. Most specification points addressed. **(2-3 Marks)**	4	**Accept** justified points related to the candidates' **own specification,** even if the points attracted no reward in 5(a). **Look for** mention of specific features of the developed final idea.

Question			Answer	Mark	Guidance
			Detailed evaluation of **how** their design meets their specification. Fully addresses all specification points. **(4 Marks)**		
			Total	**20**	

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