Design Fundamentals

3.1 DESIGN, DESIGNER AND DESIGN PROCESS

Everything we see, touch and use is either man made or natural. The shape of the sun, the clouds, the hills, the trees, flowers, everything living are natural. The non-living things are man-madelike the clock, mobile phones, the bed we use for sleeping comfortably, the chair and table, the quilt we use to keep warm in winters, the clothes we wear, the robot, the computer, a simple thing like a safety pin, a tooth brush, a spoon. They have all been designed and created by human beings, specially trained and educated in the field of design just like doctors and engineers. There are many kinds of designers and each is trained in their special area. These specialized design professionals include Fashion designers, Product designers, Textile designers, Graphic and communication designers, Landscape designers Interior designers and many more.

A designer not only improves the outside beauty and aesthetics of the object but most importantly improves the use and functioning of the object. This brings out a clear difference between two very close but different professionals, a designer and an artist. An artist's work has aesthetic appeal, has beauty, interpreted and expressed in his own way through colors and shapes in the form of paintings. A designer's work too has aesthetic appeal but is in response to a market need, a client need. A designer fulfills a need, a purpose. He/she creates for others, a client, a market, a country. Tom Ford, a fashion designer has aptly said, "As a fashion designer, I was sure that I was not an artist because I was creating something that was made to be sold, marketed, used and ultimately discarded".

A product is well designed when aesthetics, beauty and functionality along with salability are all in a perfect balance. A good example of a product designed with a balance of aesthetics and function is a helmet depicted in Figure 3.1.1. Presently available in the market, it is a well designed product because as compared to the helmets existing earlier, it is now much lighter and comfortable to wear; it looks smart and attractive, available in many colors. People feel happy to use them unlike the earlier helmets which looked like they were straight from a 14th century battle field. The helmets of today look good, are comfortable, lightweight, safe and affordable. They serve the function of protecting the user's head, eyes and ears from the cold, hot sun, wind, flying insects and most of all from head injuries in case of road accidents.

Design and Creativity

Creativity and Originality does matter, it is important but not at the expense of good design.

'Creative' does not mean 'different' or 'bold'. Design is about a fresh look, a unique, and an unusual interpretation. Good design respects our need for the familiar while still being unique.

3.1.1 The Design Process

Good design does not "assemble" or "decorate" arbitrarily. Designing is a conscious, logical yet creative activity. There is a method, a plan, a reason, and a process involved while creating good designs.

A designer has to first of all use his knowledge of the basic tools of design. The designer's tools are the elements and principles of design. He/she uses these tools like a carpenter uses his tools. The Elements of design are Dots, Lines, Shapes, Texture, Color and the Principles of design are Rhythm, Balance, Proportion, and Emphasis. A good design does not just happen, nor is it suddenly discovered. It is a process involving a thorough research on the existing similar products, the existing problems, the need for improvement, the future use, what are the new features, changes that people are looking for. The designer then looks for sources of inspiration, studies, trends, and forecasts and begins to make sketches. The most appropriate sketch is chosen, details are clearly designed and all directions for making the product are written. A prototype or sample is made of the new design and it is shown to a client and tested in the market for viability, usability, and originality. Once it does well, the product is then produced in large quantities or in bulk. Charles Eames has very correctly defined design as "A plan for arranging elements in such a way as to best accomplish a particular purpose".

Figure 3.1 Helmet

Now that we know what is design and what is the role of a designer and how he or she follows a design process we learn to be more sensitive to our environment. We realize that everything we use cannot be taken for granted and learn to value the work of God and designers.

EXERCISE 3.1

True or False

1. Designing is a conscious, logical yet creative activity.

2. A designer only improves the outside beauty and aesthetics of an object.

3. The designer's tools are the elements and principles of design.

4.   An artist improves the use and functioning of an object.

5.   For creating good designs a method, a plan, a reason, and a process are involved.

Review Questions

1.   Give an example of any product, explaining its aesthetics and functionality from a user's point of view.

2.   Write a short note on design process.

ACTIVITY 3.1

This activity is intended to enable students to trace the Pendulum Swing in fashion history through photographs/visuals.

1.   Select a specific product design from magazines or web resources.

2.   Analyze the design and find out its association with any natural form, for example a carpet design is inspired from grass in the lawn.

3.2   ELEMENTS OF DESIGN

In our day-to-day life we experience design intent in everything around us. Presence of specific factors which makes the visual experience pleasing or non-pleasing are identified as Elements and Principles of design.

The Elements of Design are the fundamental components of any design composition. They are required to be arranged as components for creating design compositions.

3.2.1 Point

Point is the simplest element of design. Which it is put into a blank space it turns an inactive space into a visually active space.

Interesting examples of how points are used in design of lifestyle products and footwear are shown in Figure 3.2.1 and 3.2.2

Figure 3.2.1 Points used in Product

Figure 3.2.2 Points used in Footwear

A point depicts a precise and limited location. For an example circular shape of dot is adopted as an inspiration for designing electric bulbs. It is also used in Indian culture in the form of traditional auspicious symbol known as *bindi* or *bindu*. It creates a contrast with the background, which implies a strong identity and approach.

The points used in a regular repetition form a pattern or design which is extensively used in apparel and lifestyle accessories as depicted in Figure 3.2.3 and 3.2.4

Figure 3.2.3 Points used in Accessory

Figure 3.2.4 Point used in Apparel

3.2.2 Line

Line is another element of design characterized as a mark with length and direction, created by joining points across a surface. Multiple lines also create contours and shapes. Lines can be seen in almost everything around us including leafs, roots, branches, water waves, fish, birds, animals and manmade objects. An example of lines in vegetation is shown in Figure 3.2.5.

Lines differ with each other in length, width, direction, curvature, and weight. Lines can be categorized in three kinds including organic, rigid and differing weights. A curved line possesses dynamic, ever changing, and natural characters, while a straight line is more static in nature. Diagonal lines are often used to create a movement and depth in a composition. Horizontal lines impart passive, stagnant and tranquil appeal to a composition while vertical lines evoke strength and control. Usage of lines in a bed cover is depicted in Figure 3.2.6.
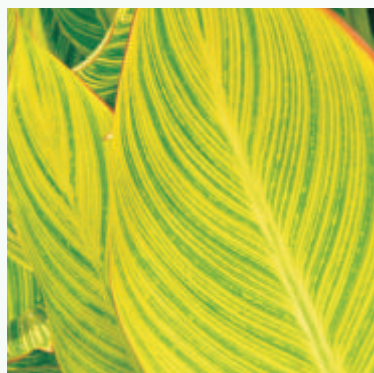
Figure 3.2.5 Lines in Nature

Figure 3.2.6 Lines used in Home-Textiles

Line depending on its use may recall, inform, describe and signify subjective forces and arouse deep associations. Lines may signify things, actions, concepts, qualities and conditions. Examples of lines used in footwear and lifestyle products are portrayed in Figure 3.2.7 and 3.2.8.

Figure 3.2.7 Lines used in Footwear

Fig. 3.2.8 Lines used in Product

3.2.3 SHAPE

When a line crosses itself or intersects with other lines forming an enclosed space, a shape is formed. Thus shape is an element of design, which is defined by its closed contours. Shape is an area or form with a definite outline and a visible appearance and structure.

In a composition the filled or solid portion is called positive space while space around the positive space is called negative space. Both positive space & negative space are essential to see shapes.

Shapes can be divided in three categories based on their structures:

★   Organic shapes

★   Geometric shapes

★   Abstract shapes

Free flowing, informal and irregular shapes are termed as organic shapes. Some examples of organic shapes in nature are flowers, seashells and tree branches. Organic shapes from nature are extensively used in lifestyle products as depicted in Figure 3.2.9 and 3.2.10.

Figure 3.2.11 depicts their usage in fashion accessory i.e. scarf

Figure 3.2.9 Organic Shapes used in decorative Product

Figure 3.2.10 Organic Shapes used in Product

On the other hand geometric shapes are rigid, regular and precise in nature. Some examples of geometric shapes are beehive, spider web and water drops. An example of geometric shapes used in repetition, is shown in Figure 3.2.12.

Figure 3.2.11 Organic Shapes used in Accessory   Figure 3.2.12 Geometric Shapes used in products

Figure 3.2.13 depicts usage of geometric shapes (checks) in woven textiles while Figure 3.2.14 depicts their presence in surface of a hand-knitted cap.

Whenever an original shape is modified to change its character, the new changed shape is called an abstract shape. Few examples of abstract shapes used in carpets, architectural forms and paper designs are portrayed in Figure 3.2.16, 3.2.17 and 3.2.18

Figure 3.2.13 Geometric Shapes used in Textiles

Figure 3.2.14 Geometric Shapes used in Knitted Accessory

Figure 3.2.15 Organic Shapes used in Product
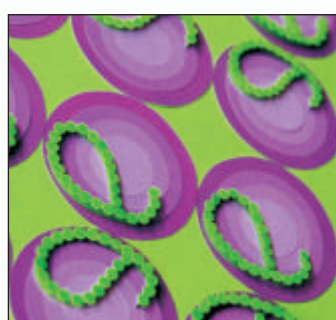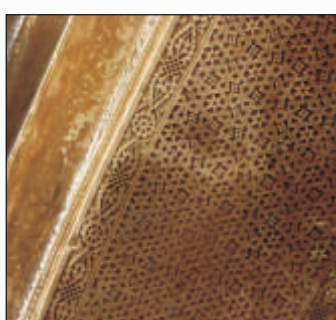
Figure 3.2.16 Abstract Shapes used in Carpet

Figure 3.2.17 Abstract Shapes used in Architecture

Figure 3.2.18 Abstract Shapes used in Paper Design

3.2.4 Texture

Texture relates to the physical make-up of a given form. It refers to surfaces that have more than two dimensions thereby enhancing the surface quality. For example, there is a smooth surface of silk and rough surface of jute. Figure 3.2.19 and 3.2.20 shows presence of textures in nature. It adds visual as well as tactile interest to the surface appearance. Tactile interest refers to the actual feel of surface while visual interest relates to the perceived look. Textures are described by adjectives such as rough, smooth, voluminous, flat, pebbly, soft, uneven etc. Various examples of textures found in nature are shells, row of trees in the woods, tree bark, texture on the wings of birds and insects, clouds, snow, flower petals and many more.

The categories of Textures are mentioned below:

★   **Real Texture:** A real texture is the actual texture of a form. Usually artists create real textures in art forms to impart visual interest. A piece of pottery can have a rough texture to depict its natural character or be given a smooth texture by glazing technique.

★   **Implied Texture:** It is not the real texture (three dimensional texture) it is a visual impression of a texture. For example a sketch of a tree bark may look real but actually the rough texture of the bark has been created by shading on a that piece of paper.

Figure 3.2.19 Texture in Nature   *Figure 3.2.20 Texture in Nature*

Figure 3.2.21 and 3.2.22 depicts usage of implied textures in paper designs and lifestyle products.

As a fashion designer, understanding of texture as on element of design ultimately lead to fabric manipulation techniques like gathering, pleating, tucks etc. There are varieties of textures visible in nature and the same can be used as source of inspiration for creation of different surface designs of garments and products. For example texture of grass can simply be an inspiration surface for the

texture of a carpedt. The texture of the carpet adds a visual attribute, as if someone is walking on soft grass field.

Figure 3.2.21 Texture in Paper Design   *Figure 3.2.22 Texture used in Product*

EXERCISE 3.2

Fill in the blanks

1.   When a line crosses itself or intersects with other lines, it forms a _____.

2.   In a composition filled or solid portion is called _____space while the space around the filled portion is called _____space.

3.   An element of design characterized as a mark with length and direction is termed as _____.

4.   When the points are used in a regular repetition they form a _____.

Match the following:

Geometric shapes	Add tactile interest to the surface appearance
Organic Shapes	Categorized as organic, rigid and differing weights
Textures	Rigid, regular and precise in nature
Lines	Free flowing, informal and irregular

Review Questions

1.   What are major elements of design?

2.   What is the fundamental difference between elements and principles of design?

3. Explain the symbolic meaning of point in context with Indian culture.

4. Quote four different examples of lines present in nature and four different examples in man-made environment?

5. Differentiate between real and implied textures with suitable examples?

6. Explain organic, geometric and abstract shapes giving an example of each type.

7. Create a composition using 2 geometric and 2 organic shapes

ACTIVITY 3.2

This activity is proposed to inculcate observational and analytical approach in viewing day-to-day forms in finer perspective.

1. Visit a nearby crowded street and select an area of your choice like vehicle, shop, street vendor, old building etc.

2. Observe and analyze the selected area and identify the principles of design (point, line, shape and texture) present in it.

3.3 COLOUR THEORY AND PSYCHOLOGY OF COLOURS

Colour is the most important element of design, as what ever we see will not evoke any emotions in the absence of colour. It is a very effective and powerful tool for visual communication of concepts. Shape on form and color are the two basic components in visual communication. Form affects the intellect while the color evokes emotions.

Figure 3.3.1 Colours

Visibility of any colour is a basic property of light. When light strikes a surface certain wavelengths are absorbed and others are reflected (bounce back) by its pigment or colouring matter. By means of this phenomenon we see the colour.

In the beginning man's life was governed by two factors - night and day, associated with dark and light, sleep and activity. The colours dark blue of the night-sky and bright yellow of daylight are still the colours of quiet passivity and heightened energy respectively.

There are few terms which describe attributes of colour. They are hue, tint, shade, tone and colour schemes.

★ **Hue:** Purest form of any colour is defined as hue.

★ **Tint:** Tint is created by adding white to a hue (pure colour). It is termed as light value of a hue. For example, mauve is a tint of violet, and pink is a tint of red.
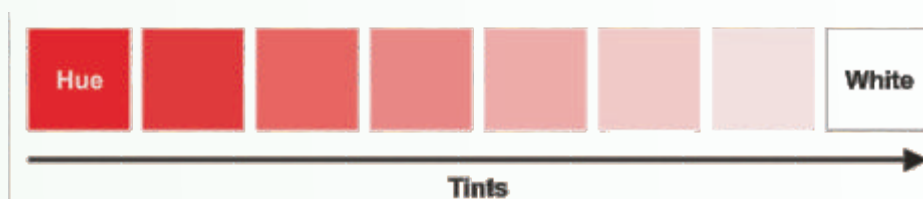

Figure 3.3.2 Tints

★ **Shade:** Shade is created by adding black to a hue (pure colour). It is termed as dark value of a hue. For example, maroon is a shade of red, and moss green is a shade of green.
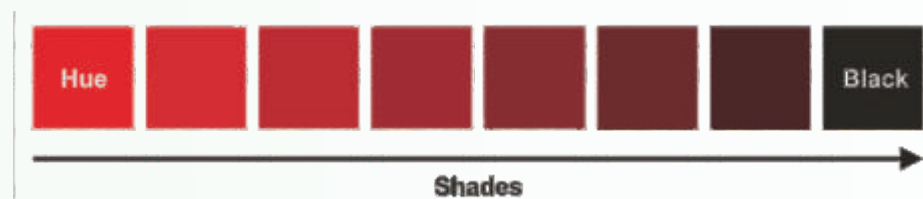

Figure 3.3.3 Shades

★ **Tone:** Tone is created by adding grey (white and black) to a hue. It is termed as saturated form of a hue. For example, dull rose is a tone of red, and dull blue is a tone of blue.
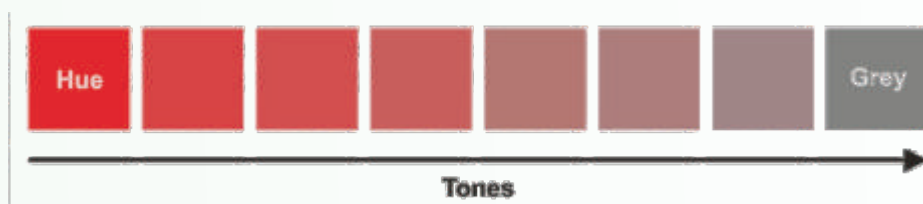

Figure 3.3.4 Tones

Usages of colours are as follows:

★ Enhancing visual appearance

★ Obstructing visual continuity

★   Attracting attention

★   Creating contrast or blend

★   Softening or hardening of forms

★   Evoking emotional response

3.3.1   Colour Theory: The Prang System

The color wheel is the basic tool for deriving colour schemes. Based on the scientific theory of light, colours are classified in the following groups:

★   **Primary Colours:** Primary colours cannot be formed by mixing any combination of other colors. All other colors are derived from these three primary colours. The three primary colours are Red, Blue and Yellow.

★   **Secondary Colours:** They are achieved by mixing any two primary colours in equal proportion. They are Orange (Red + Yellow), Green (Yellow + Blue) and Violet (Red + Blue).

★   **Tertiary Colours:** They are achieved by mixing one primary and one secondary colour in equal proportion. They are Red-Violet, Red-Orange, Blue-Violet, Blue-Green, Yellow-Green and Yellow-Orange.

R: Red   B: Blue   Y: Yellow   G: Green   V: Violet   O: Orange
BG: Blue Green   YG: Yellow Green   YO: Yellow Orange   RO: Red Orange   RV: Red Violet   BV: Blue Violet

Figure 3.3.5 Colour Wheel

3.3.2 Colour Schemes

★ **Triadic Colour Scheme:** Any three colors with a balanced triangular relationship collectively make Triadic Colour Scheme. The basic triad consists of three colors equidistant on the color wheel. The best known of all color schemes are: the primary colors, red, yellow, and blue; the secondary colors, orange, green and violet. It is illustrated in a colour wheel placed at Figure 3.3.6.

Figure 3.3.7 depicts triadic colour scheme in real life situation in which red, yellow and blue are visible in a combination.
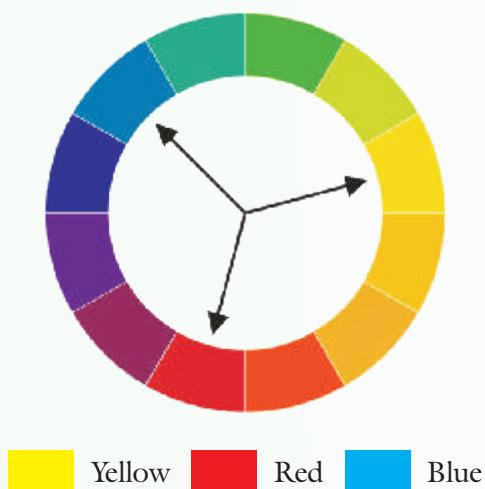

Yellow   Red   Blue
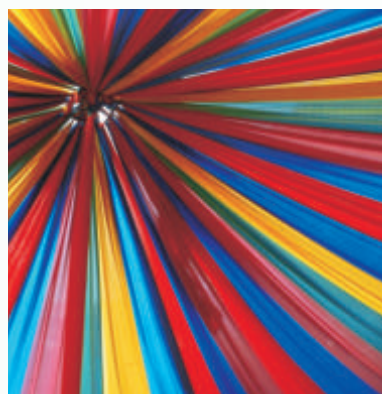

Figure 3.3.6 Triadic Colour Scheme   *Figure 3.3.7 Triadic Colour Scheme*

★ **Complimentary Colour Scheme:** Complementary colors are any two colors, which are situated directly opposite each other, such as red-green, yellow-violet and blue-orange. These opposing colors create maximum contrast and maximum interest. This scheme combines colours of totally opposite nature hence it appears active and emphatic. It is illustrated in a colour wheel placed at Figure 3.3.8 which shows a combination of yellow and violet.

Figure 3.3.9 depicts complimentary colour scheme in nature which shows a combination of red and green.
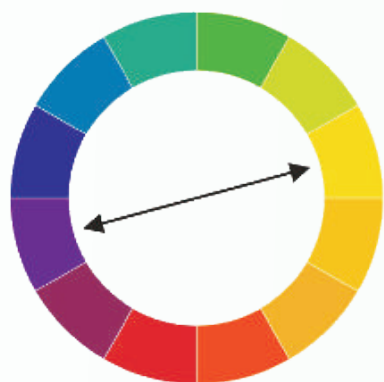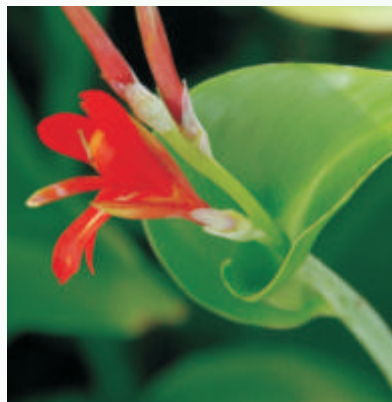
Yellow   Violet

Figure 3.3.8 Complimentary Colour Scheme

Figure 3.3.9 Complimentary Colour Scheme

★ **Analogous Colour Scheme:** Analogous colors are any three colors, which are situated side by side on a color wheel. For example yellow-green, yellow and green in a group work as analogous colour scheme. They look pleasant and harmonious collectively because they are closely related. It is illustrated in a colour wheel placed at Figure 3.3.10 which shows a combination of yellow, yellow-green and green.

Figure 3.3.11 depicts analogous colour scheme in nature which shows a combination of yellow, yellow-green and yellow-orange.

Yellow   Yellow Green   Green

Figure 3.3.10 Analogous Colour Scheme

Figure 3.3.11 Analogous Colour Scheme

★ **Monochromatic Colour Scheme:** In this scheme a single colour or hue is used in combination with its tints, shades and tones. Due to the usage of single colour the monochromatic colour scheme appears very soothing, subtle and pleasing to the viewer. Figure 3.3.12 depicts monochromatic colour scheme in real life situation in which tints and shades of red are visible in a frame.

Figure 3.3.12 Monochromatic Colour Scheme

3.3.3 Colour Palette

The colour palette is a group of chosen colours used in different combinations to create a particular design or a set of designs under one collection. The tints, shades and tones of chosen colours can also be used in the same colour story.

A colour palette is depicted in Figure 3.3.13 along with its usage in a bedding collection.

Bedding Collection

Colour Palette

Figure 3.3.13 Monochromatic Colour Scheme

3.3.4 Colour Psychology

The meaning of colour applies to many areas of design. Colour sends messages and expresses feelings. Colour is a means of instant communication. A detailed passage on some colours will explain the messages and meanings they convey.

★ WHITE is the colour of heaven, a quiet silence, peace, purity and the presence of God. White stands for clarity, simplicity, innocence and delicacy. "White is gently romantic or starkly modern depending on how you use it"- The statement by Hilary Mandleberg, beautifully describes another meaning of the colour white. The colour white has different or opposite connotations in different communities. A Christian bride wears a white wedding gown for her wedding symbolizing purity and innocence. White colour among Hindus is the colour of mourning and death. A Hindu widow often wears white.

Figure 3.3.14 The white Taj Mahal symbolizing Love and Purity

★ BLACK is powerful and empowering. In the world of fashion it is a colour most worn in cocktail parties and fashion shows. Black makes a statement of style, elegance, glamour, modern yet classic and sophisticated. Black has always had a strong presence in fashion as well as in all areas of design. The shining black Limousine and the glossy black of the Steinway grand piano are great examples of classic elegance and opulence. While at one hand Huey Newton an African-American and founding member of the Black Panther party states," black is beautiful", on the other hand black is strongly associated with fear, death, hopelessness, gloom and sadness.
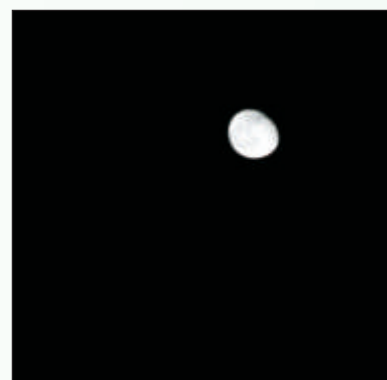
Figure 3.3.15 Black

★ RED symbolizes the heart, the strong-willed and strong emotions. The colour red is bold and an attention-getter which is why we find it being used on window displays and at the traffic signals. It instantly makes us act and react. Red is the colour of blood and bloodshed. The colour red is the most sensual amongst all the colours. It is the most passionate, provocative and romantic colour. Hence, we find red used extensively in ladies cosmetics, clothes and packaging. Red is the colour of festivity, celebration, adventure and youth. In India, red is considered auspicious hence we see this colour used in bridal wear and wedding decorations.

Figure 3.3.16 Red

★ YELLOW instantly connects to the words sun, sparkling, warm and energy. It is the opposite of dark, dull or hazy. It is as an extrovert colour. Lively, open, clear and bright. It is the colour of hope, happiness and optimism. Golden yellow symbolizes opulence, luxury and divinity.
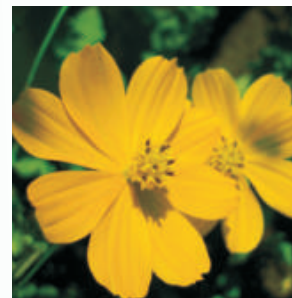
Figure 3.3.17 Yellow

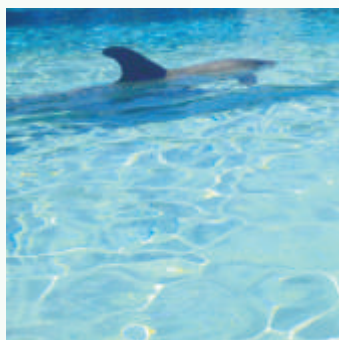★ BLUE is the colour of the calm sky, deep night sky, clear blue water and the deep ocean. Blue symbolizes royalty and grandeur. The colour blue ranges from the soft light blue to rich royal blues to deep and dark blues. The lighter tints of blue symbolize softness sensitive emotions, hope and peace while the dark blues are associated with depth, authority, strength and reliability. We therefore find doctors, nurses and hospitals using light, fresh and calming blues while dark blue is used in uniforms and banks conveying dependability and authority.

Figure 3.3.18 Blue

★ GREEN is the most soothing colour to the eye. There are numerous shades of green we see in nature. The fresh green of leaves, tender shoots and grass symbolize new, refreshing, growth, organic, youth, health, relaxing, stress-free. The dark green of the forest symbolizes strength, trustworthy, determination and prosperity. The olive green and the mossy green symbolize military, safari and camouflage.

Figure 3.3.19 Green

★ ORANGE is the optimistic, joyful and lively. It instantly connects our mind to tangy oranges, juicy-citric drinks and spicy foods. We find different shades of orange in natural foods like carrots, pumpkin, tangerine, mandarin, melon, mango and in flowers like marigold and nasturtium. When compared to colour red, it is seen as a friendlier and less aggressive colour. It emits thoughts of adventure, fun-loving and outdoor-sports. Orange in an auspicious colour for people following Buddhism, symbolizing success and long life.
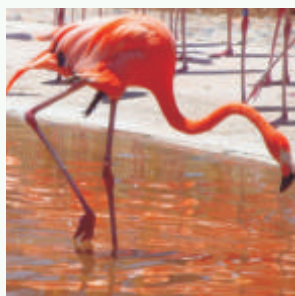
Figure 3.3.20 Orange

Deep terracotta orange or brick orange symbolizes warmth, down-to-earth, pragmatics in and abundance.

★ VIOLET is associated with words like magical, blooming, mysterious allure and feminine. It ranges from ethereal lavender, mauve, purple to deep violet. The lighter tints symbolize aging and femininity while the darker shades symbolize royalty and exclusivity. We find various violet flowers and foods in nature like orchids, irises, berries, grapes and plums known for their unique appearance and taste, therefore the notion of exclusivity always accompanies colour violet. Being soft and feminine lavenders and mauves are extensively used in ladies cosmetics, clothes, nightwear and lifestyle accessories.

Figure 3.3.21 Violet Flowers in Nature

EXERCISE 3.3

Fill in the blanks

1. Light value of a hue is termed as _____ and dark value of a hue is termed as_____.

2. _____colours are achieved by mixing any two primary colours in equal proportion.

3. A pair of two colors, situated directly opposite each other in a colour wheel is termed as_____ colour scheme.

4. _____colour symbolizes the strong-willed and strong emotions.

Match the following:

Analogous colour scheme	Achieved by mixing one primary and one secondary colour in equal proportion
Tertiary colours	Set of three colors, situated side by side in color wheel
Tone	Symbolizes silence, peace and purity
White	Termed as saturated form of a hue

Review Questions

1. Define hue, tint, shade and tone of colour.

2. Describe usages of colours in design.

3. What do you understand by the term 'colour-palette' and explain its relevance in design?

4. How are secondary and tertiary colours formed?

ACTIVITY 3.3.1

This activity will assist the students to derive different colour combinations from existing visual resources.

1. Select a colorful picture from a magazine.

2. Find out the main colours present in the selected picture.

3. Choose six colours and create a color palette using them.

ACTIVITY 3.3.2

This activity will enable students to apply different colour schemes in the process of designing objects.

1. Sketch any 1 object four times

2. Apply 4 different colour schemes to each of them.

3.4 PRINCIPLES OF DESIGN

After the familiarization with the basic Elements of Design it is important to know how to utilize them. The fundamental requirement for design creation is elements of design. They are considered as objects, constituents or ingredients for making a design. The Principles of Design ascertain the manner in which the constituents (elements of design) are organized to create a framework for design. In other words they guide the arrangement of elements within a design composition. They are termed as designers' tools for design solutions.

The fundamental Principles of Design are as follows:

3.4.1 Rhythm

There is a profound rhythm visible in nature and life - in walking, running, and breathing; in the seasons, phases of moon, tides of the sea, voices of animals, birds and insects. Rhythm is the recurrence or alternation of design elements, often with defined intervals between them. It creates a

sense of movement to the observer. The principle of rhythm is employed to arrange the elements for creating patterns and textures. Rhythmical repeats are found in age-old craft techniques like basket making, weaving and knitting. Examples depicting rhythm in nature and architectural forms are placed at Figure 3.4.1 and 3.4.2.

Figure 3.4.1 Rhythm in Nature   *Figure 3.4.2 Rhythm in Architecture*

Three different kinds of rhythm are defined by the feelings they evoke.

★ **Regular Rhythm:** An element or a set of elements is repeated at regular intervals when the design is governed by principle of regular rhythm.

★ **Flowing Rhythm:** It is defined as visual movement relates to continuance of an element used in design creation. This kind of visual rhythm is often more organic in nature. An interesting example of flowing rhythm in lifestyle products is placed at Figure 3.4.3.

★ **Progressive Rhythm:** A progressive rhythm encompasses visual sequencing of forms through progression of steps. This effect is often achieved by increasing or decreasing occurrence of design elements.

Figure 3.4.3 Flowing Rhythm in a Product

3.4.2 Balance

Balance relates to the visual weight of elements within a design. It is defined as harmonious relationship between the positive and negative spaces of a design.

In other words the attribute of balance is experienced due to visual equality of positive and negative spaces. Balance is categorized in two forms: symmetrical and asymmetrical. Figure 3.4.4 and 3.4.5 shows presence of symmetric balance in architectural forms and lifestyle products.

Figure 3.4.4 Symmetric Balance in Architecture   *Figure 3.4.5 Symmetric Balance in Product*

★ **Symmetrical Balance:** This balance occurs when the visual weight of a composition is evenly distributed on both sides of vertical axis or horizontal axis or diagonal axis in a design. This implies the formation of identical mirror images on both sides of the axis. Presence of an axis is a clear demarcation between symmetrical and asymmetrical balance. A checkered board is an example of an absolutely symmetrical balanced composition. Figure 3.4.6 and 3.4.7 depicts presence of symmetric balance in apparels and lifestyle accessories.

Figure 3.4.6 Symmetric Balance in Apparel   *Figure 3.4.7 Symmetric Balance in Accessory*

★ **Asymmetrical Balance:** In this case the axis of symmetry is not present in the design but the weight of a composition appears to be evenly distributed. It involves the arrangement of elements having different sizes and nature in a fashion that they balance one another with their respective 'visual weights'. For an example several smaller forms in a design counterbalance a dominant form. Usually asymmetrical designs tend to have a greater sense of visual interest than symmetrical designs. Figure 3.4.8 and 3.4.9 shows presence of asymmetric balance in lifestyle and decorative products.

Figure 3.4.8 Asymmetric Balance in a mobile cover

Figure 3.4.9 Asymmetric Balance in a piece of jewellery

3.4.3 Emphasis

The presence of Emphasis communicates varying degrees of visual dominance in a design. In other words visual weight of the design is unevenly distributed in a manner that a particular portion of the design grabs more attention than the rest.

This principle is the tool that highlights and underlines that which is to be communicated. It is used to attract attention of the observer in one area of a presented design. Emphasis when used appropriately adds a visual interest which harmony cannot produce. Figure 3.4.10 and 3.4.11 depicts presence of emphasis in nature and decorative products.

Figure 3.4.10 Emphasis in Nature

Figure 3.4.11 Emphasis in a Product

3.4.4 Contrast

Contrast is defined as juxtaposition of opposing elements in a design. Presence of contrast brings more clarity in communication of intended design concept. The principle of contrast is associated with comparison of elements within a design. It shows an interesting arrangement of multiple elements based on their prioritized visual importance. It is also used to add focus or emphasis in a visually active design composition. Contrast can be achieved by following means:

★ **Size Contrast:** The elements of same shape are used in differing sizes.

★ **Shape Contrast:** The elements of approximately same size are used in differing shapes.

★ **Texture Contrast:** The elements of same shape and same size are used with different textures.

★ **Position Contrast:** The elements of same shape are used in different positions or angles.

★ **Colour Contrast:** The elements of same shape are used in different colours. An example of colour contrast is placed at Figure 3.4.13 in which same forms are present in two different colours.

★ **Value contrast:** The elements of same shape are used in different values of same colour. An example of colour contrast is placed at Figure 3.4.12 in which similar forms are captured in a frame having varying values of a colour.

Figure 3.4.12 Contrast in Nature   *Figure 3.4.13 Contrast in Product*

We have thoroughly explored the fundamental concepts in the design domain. The understanding of elements and principles of design change our way of looking at the world. They provide the designer with a fundamental set of tools to begin working within the field of design.

EXERCISE 3.4

Fill in the blanks

1. The recurrence or alternation of design elements, often with defined intervals between them is termed as_____.

2. _____rhythm achieved by increasing or decreasing occurrence of design elements.

3. Visual equality of positive and negative spaces in a design is termed as _____.

4. _____is used to attract attention of the observer in one area of a design.

Match the following:

Rhythm	Comparison of elements within a design
Checkered board	Particular portion of the design grabs more attention than the rest
Emphasis	Symmetrical balance
Contrast	Creates a sense of movement to the observer

Review Questions

1. What are major principles of design?

2. Describe three different types of rhythm.

3. Define emphasis and its relevance in design.

4. Explain three different means of achieving contrast in designs.

ACTIVITY 3.4.1

This activity is proposed to enable students to appreciate the principles of design occurring in nature and how they play an important role to impart aesthetics.

1. Visit a nearby park and select five natural forms like flower, leaf, tree, plant, insects, rocks etc.

2. Observe and analyze the selected natural forms and identify the principles of design (balance, rhythm, emphasis and contrast) present in them.

ACTIVITY 3.4.2

1. Using the Elements of Design like points, lines and shapes, fill-in a design pattern within the shirts given below.

2. In Shirt -I arrange the Elements of Design in order to show the Principle of Emphasis.

3. In Shirt -II arrange the Elements of Design in order to show the Principle of Rhythm.

Shirt - I

Shirt - II

GLOSSARY

Graphic: Related to visual art, picturesque and vivid.

Sketch: A rough drawing intended to serve as the bases for a finished picture. In other words it is a simply or hastily executed drawing or painting, especially a preliminary one, giving the essential features without the details.

Viability: Capability of becoming actual, useful and practicable.

Prototype: It is the original model on which something is based or formed. A product's prototype is tested before it is manufactured commercially so that the design can be improved if required.

Contemporary: It refers to the characteristic of the present. Contemporary design is ever changing as it belongs to the current moment.

Mandarin: A small citrus, loose-skinned fruit (Citrus reticulata), native to China, orange-yellow to deep-orange in colour.

Pragmatic: Pertaining to a practical point of view.

Progression: Progression refers to step by step gradual movement.

Evoke: Evoke means to call forth or call to mind emotions, feelings and responses.

Knitted: A garment or a fabric made by interlocking loops of one or more yarns either by hand with knitting needles or by knitting machines.

Contours: The edge or outline that defines a shape.

Tactile: Relating to a sense of touch.

Camouflage: Hiding, concealment by some means that changes the original appearance.

Shape: When a line crosses itself or intersects with other lines forming an enclosed space, a shape is formed.

Gathering: Gathering is a sewing technique in which running stitches are sewn along one edge and stitching threads are then pulled or drawn-up. As a result the fabric forms small folds along the pulled threads.

Tuck: Tuck is a fold, or one of a series of folds, made by doubling cloth upon itself and stitching parallel with the edge of the fold.

Hue: Purest form of any colour is defined as hue.

Value: Value refers to lightness or darkness of a hue.

Colour Palette: It is a group of chosen colours that are used in different combinations to create a particular design or a set of designs under one collection.

Rhythm: Rhythm is the recurrence or alternation of design elements, often with defined intervals between them.

Balance: It relates to the visual weight of elements within a design. It is defined as harmonious relationship between the positive and negative spaces of a design.

Contrast: Contrast is defined as juxtaposition of opposing elements in a design.

Emphasis: The visual weight of the design is unevenly distributed in a manner that a particular portion of the design grabs more attention than the rest.

Heterogeneous: Composed of parts of dis-similar nature creatively visual activity.