PHOTOGRAPHY

MODULE - I

STUDY MATERIAL

PHOTOGRAPHY

MODULE - 1

Media & Entertainment Skills Council

THE CONSTITUTION OF INDIA

PREAMBLE

WE, THE PEOPLE OF INDIA, having solemnly resolved to constitute India into a [1][SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC] and to secure to all its citizens:

JUSTICE, social, economic and political;

LIBERTY of thought, expression, belief, faith and worship;

EQUALITY of status and of opportunity;

and to promote among them all

FRATERNITY assuring the dignity of the individual and the [2][unity and integrity of the Nation];

IN OUR CONSTITUENT ASSEMBLY this twenty-sixth day of November, 1949, do HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION.

---

1. Subs. by the Constitution (Forty-second Amendment) Act, 1976, s. 2, for "SOVEREIGN DEMOCRAIC REPUBLIC" (w.e.f. 3-1-1977).
2. Subs. by s. 2., ibid., for "unity of the Nation" (w.e.f. 3-1-1977).

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[1][PART IVA

FUNDAMENTAL DUTIES

51A. Fundamental duties.—It shall be the duty of every citizen of India—

(a) to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;

(b) to cherish and follow the noble ideals which inspired our national struggle for freedom;

(c) to uphold and protect the sovereignty, unity and integrity of India;

(d) to defend the country and render national service when called upon to do so;

(e) to promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women;

(f) to value and preserve the rich heritage of our composite culture;

(g) to protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures;

(h) to develop the scientific temper, humanism and the spirit of inquiry and reform;

(i) to safeguard public property and to abjure violence;

(j) to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement.]

[2][(k) who is a parent of guardian to provide opportunities for education to his child or, as the case may be, ward between the age of six and fourteen years.]

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1. Ins. by the Constitution (Forty-second Amendment) Act, 1976, s. 11 (w.e.f. 3-1-1977).
2. Ins by the Constitution (Eighty-sixth Amendment) Act, 2002, s. 4 (date to be notified).

भारत का संविधान

उद्देशिका

हम भारत के लोग भारत को एक [1][**संपूर्ण प्रभुत्व-संपन्न समाजवादी पंथनिरपेक्ष लोकतंत्रात्मक गणराज्य**] बनाने के लिए, तथा उसके समस्त नागरिकों को :

सामाजिक, आर्थिक और राजनैतिक **न्याय,**
विचार अभिव्यक्ति, विश्वास, धर्म
और उपासना की **स्वतंत्रता,**
प्रतिष्ठा और अवसर की **समता**
प्राप्त कराने के लिए, तथा उन सब में
व्यक्ति की गरिमा और [2][राष्ट्र की एकता
और अखंडता] सुनिश्चित करने वाली **बंधुता**
बढ़ाने के लिए

दृढ़संकल्प होकर **अपनी इस संविधान सभा में** आज तारीख 26 नवम्बर 1949 ई॰ (मिति मार्गशीर्ष शुक्ला सप्तमी, संवत् दो हजार छः विक्रमी) को **एतद्द्वारा इस संविधान को अंगीकृत, अधिनियमित और आत्मार्पित करते हैं ।**

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1. संविधान (बयालीसवां संशोधन) अधिनियम, 1970 की धारा 2 द्वारा (3-1-1977 से) "**प्रभुत्व-संपन्न लोकतंत्रात्मक गणराज्य**" के स्थान पर प्रतिस्थापित ।
2. संविधान (बयालीसवां संशोधन) अधिनियम, 1970 की धारा 2 द्वारा (3-1-1977 से) "राष्ट्र की एकता" के स्थान पर प्रतिस्थापित ।

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[1][**भाग 4क**

मूल कर्तव्य

51क. मूल कर्तव्य – भारत के प्रत्येक नागरिक का यह कर्तव्य होगा कि वह

(क) संविधान का पालन करे और उसके आदर्शों संस्थाओं, राष्ट्र ध्वज और राष्ट्रगान का आदर करे;

(ख) स्वतंत्रता के लिए हमारे राष्ट्रीय आदोलन को प्रेरित करने वाले उच्च आदर्शों को हृदय में संजोए रखे और उनका पालन करे;

(ग) भारत की प्रभुता, एकता और अखंडता की रक्षा करे और उसे अक्षुण्ण रखे;

(घ) देश की रक्षा करे और आह्वान किए जाने पर राष्ट्र की सेवा करे;

(ङ) भारत के सभी लोगों में समरसता और समान भ्रातृत्व की भावना का निर्माण करे जो धर्म, भाषा और प्रदेश या वर्ग पर आधारित सभी भेदभाव से परे हो, ऐसी प्रथाओं का त्याग करें जो स्त्रियों के सम्मान के विरुद्ध है;

(च) हमारी सामासिक संस्कृति की गौरवशाली परंपरा का महत्व समझे और उसका परिरक्षण करे;

(छ) प्राकृतिक पर्यावरण की, जिसके अंतर्गत वन झील, नदी और वन्य जीव हैं, रक्षा करे और उसका संवर्धन करे तथा प्राणि मात्र के प्रति दयाभाव रखे;

(ज) वैज्ञानिक दृष्टिकोण, मानववाद और ज्ञानार्जन तथा सुधार की भावना का विकास करे;

(झ) सार्वजनिक संपत्ति को सुरक्षित रखे और हिंसा से दूर रहे;

(ञ) व्यक्तिगत और सामूहिक गतिविधियों के सभी क्षेत्रों में उत्कर्ष की ओर बढ़ने का सतत प्रयास करे जिससे राष्ट्र निरंतर बढ़ते हुए प्रयत्न और उपलब्धि की नई ऊंचाइयों को छू ले;

[2][(ट) यदि माता-पिता या संरक्षक है, छह वर्ष से चौदह वर्ष तक की आयु वाले अपने, यथास्थिति, बालक या प्रतिपाल्य के लिए शिक्षा के अवसर प्रदान करे ।]

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1. संविधान (बयालीसवां संशोधन) अधिनियम 1976 की धारा 11 द्वारा (3-1-1977 से) अंत:स्थापित ।
2. संविधान (छियासीवां संशोधन) अधिनियम की धारा 4 द्वारा (अधिसूचना की तारीख से) अंत:स्थापित किया जाएगा।

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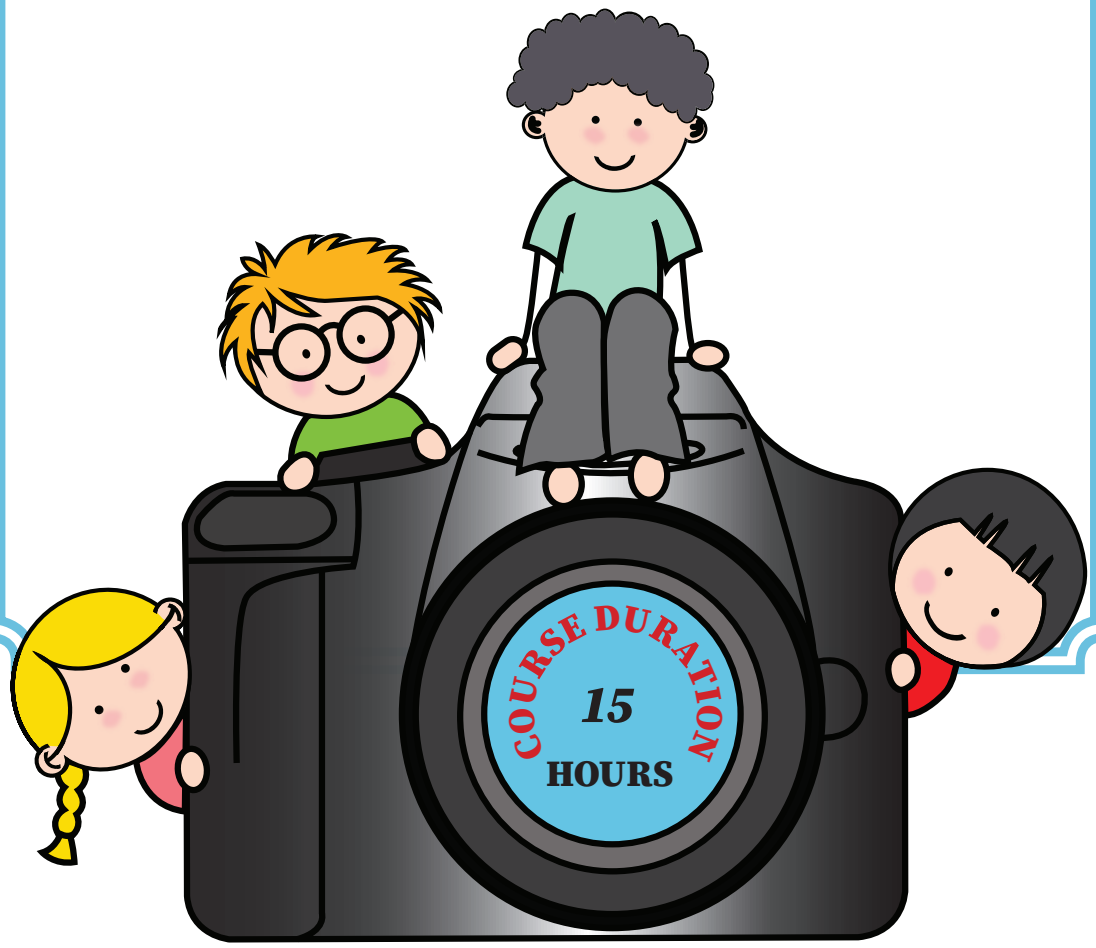
INTRODUCTION TO PHOTOGRAPHY

Course Content



MARKS DISTRIBUTION: Total 50 marks
(Theory : 15 | Practical : 35)

UNIT- 1
Introduction to Photography

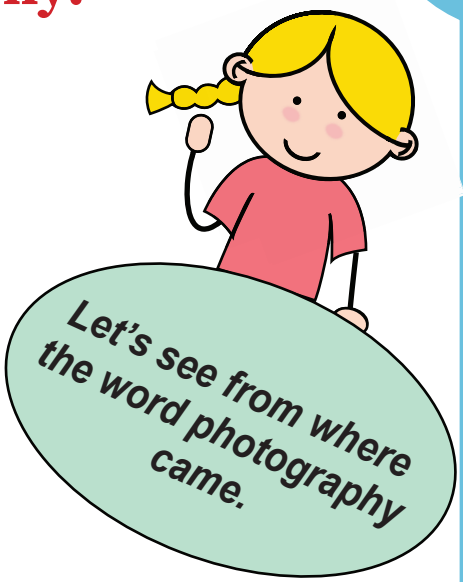
Topics Covered

1.1 Introduction to Photography

We all are surrounded by images and some of them keep on moving. To capture or freeze its movement into one frame and keep it forever as memories to cherish is known as ***Photography***. We see images daily, be it in newspapers, magazines, television, or living things around us, such as people, animals, plants, or anything we can see with our eyes. They are all photographs in some manner. Although living things are not on paper, but similar to images on paper, they also have dimensions, color and light.

What is Photography?

Photography is a Greek word made out of two words, Photo and Graphy, where Photo means ***'light'*** and Graphy refers to ***'Graphics'.***
Photography can be found in various forms. It can be art for people who are passionate and eager to explore. It can be a medium of communication for people who don't know how to read and write, and it can also be used to record research data for scientists.



Definition

Image: A visual representation of any object produced on a physical or electronic medium.

Camera is an optical instrument which is used to capture images. Let us briefly discuss the working of basic cameras used a few decades ago, and look how a real image is converted into a photo.

The camera consists of a lens on one end and film on the other. Photography was done by capturing light rays emitted from the target image via lens. These captured light rays are focused on a light-sensitive material called film. When the light strikes the film, a negative image is created on it. Upon washing this negative film with special chemicals, the real

Fact: Photography means "Drawing with Light" or "Capturing with Light".

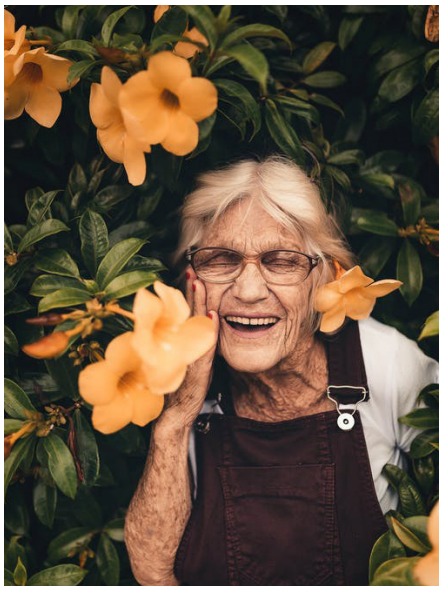
image is formed and then transferred on paper. Nowadays, mobile cameras and DSLRs are used for photography that generates photos via digital sensors. We will discuss the working of mobile camera in detail in the next unit.

Definition

Lens: A camera lens is the part of a camera that directs light to the film.

Film: It is a transparent plastic sheet, with one side covered with light-sensitive silver halide crystals, used in photographic cameras for capturing images.

We can also say that photography is the ***text-less*** language of communication. It is communicated through images. A successful photograph must contain all the crucial elements, such as light, subject, emotion, and composition.



Looking at the photos that were clicked in the past displays a sequence of

events in front of our eyes happened at that time. By looking at one photo, we relive that moment and also recall the people that were around us in that photo. Do you think that we can ever go into the past? Practically not, but by looking at the old photos, we can relive the past for some time.

There is a well-known saying:
"A picture is worth a thousand words"! Let us understand this with an example, suppose you want to sell a pen, and you have advertised it. So how would you convince people to buy it? You can do it in two ways:

1. By displaying the photo of the pen in it along with a short description.
2. By describing every characteristic of it without having the display of pen in it.

Figure 1.1: Advertisement without Pen Image

Figure 1.2: Advertisement with Pen Image

Which method do you think is more effective? Yes, of course, the poster that contains the photo of the pen attracts the public as by seeing the pen, they can easily recognise what the advertisement is all about. ***Visual images are more appealing than text.***

Another historical example is the Tsunami. You must have read about it in books or magazines. To get an idea about the event, instead of reading out the whole incident, simply by looking at the images, you can figure out that tsunami is all about the big disaster. This is the power and beauty of a photograph. A single click can give an idea of the whole incident.

Figure 1.3: Tsunami Waves

What is a Photograph ?

A ***photograph*** is a physical form of memory that emotionally drags us to the past. In other words, a photograph holds or preserves the moments of the past and presents us with a realisation of time discontinuity.

Photographs can make us realise a phase shift between the present and the past, whose key holds a unique meaning.

First Photograph

Joseph Nicéphore Niépce, in 1826, captured the first permanent photograph in France. The picture shows the roof of a building lit by the sun.

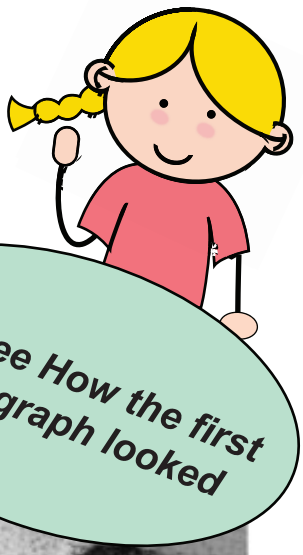


Figure 1.4: “View from the Window at Le Gras” by Joseph Nicephore Niepce

What is the purpose of Photography ?

The purpose of photography depends on a photographer's vision, i.e., what he is trying to perceive. For example, media photographers capture images to provide a detailed account of the actual events. It is extensively used in the fashion industry for the photoshoot of models. Editorial photography is used to illustrate articles in magazines, while hobbyist photographers aim to capture life moments with their families and friends.

Prerequisites for Photography

To start with photography, all you need is a camera, which can be in a smartphone, an advanced DSLR or a mirrorless camera. Apart from these, the originality and aesthetics of an image are crucial factors that should be considered during photography.

Figure 1.5: Front-side view of a DSLR

Figure 1.6: Front view of Smartphone

What is the need of photography ?

In today's world, the need for a photograph is of utmost importance because it is one of the ways that connect us to the past. It is said that "memories fade", so we need photos and videos to recall them. They connect us to our past and remind us of people, places, emotions and stories.

Fill in the blanks:

1. Photography means _____ or _____.
2. A picture is worth a _____ words.
3. In the word photography, photo means _____ and graphy means _____.
4. The first permanent photograph was captured in the year _____ in France.
5. _____ images are more appealing than text.

NOTES: _____

_____

_____

_____

_____

1.2 Importance of Photography

In 1861, *Frederick Douglass*, an American social reformer, orator and writer, held a lecture called ***"Pictures and Progress".*** He emphasised that "The great cheapness and universality of pictures must exert a powerful though silent influence upon the ideas and sentiment of present and future generations."

In this chapter, you will learn about the importance of photography and how photos revolve around us every day. Photographs are the source of information; for example, you must have seen photos on advertising hoardings in your city, safety sign boards, walls, and newspapers and magazines. With the addition of a photograph in any article, its authenticity is increased.

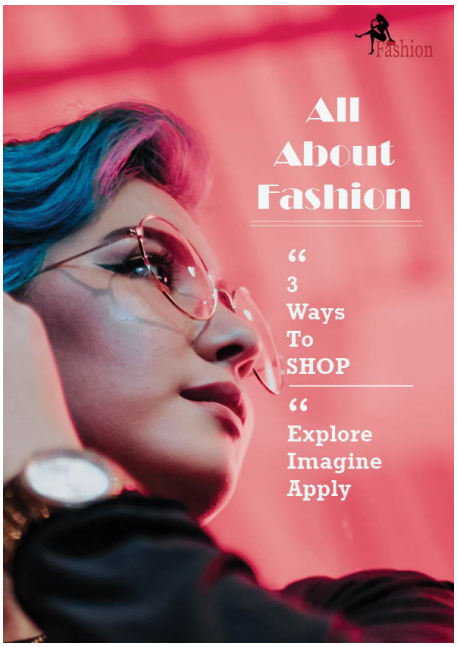


Figure 1.7: Magazine

Figure 1.8: Advertising Hoarding

These days pictures are as informative as written or printed words. In fact, in a country like ours, where many people still cannot read and write, photographs acts as the medium of learning.

Generally, Photographs are seen along with the written news in newspapers and magazines. Adding photographs along with news builds trust among readers and also acts as an Wevidence of the event's happening.

HYDERABAD Friday 21 November, 2014

CITY EXPRESS
THE NEW INDIAN EXPRESS

CAPTURING TIMELESS MOMENTS

Saurabh Chatterjee

Photography is an art of capturing moments from our life in a language that needs no words. An art which has existed for many decades now, it has evolved over the years with changes in technologies, techniques and equipment. Though photography has varied fields, the most common and all time favourite remains travel photography. But often, people in their bid to capture the sights forget some key bits when it comes to photography. Keeping this in mind, popular photographer Saurabh Chatterjee is conducting a travel photography workshop in the city.

With over 15 years of experience in the field and travels across the world under his belt, Saurabh who owns SIA Photography says the field has undergone tremendous changes over the years. "There is a remarkable change in photography over the last 15 years. The most salient one is the invention of DSLRs. Internet stands second. Back then, libraries were the only source of information. Doing research has become much easier with Google. Apart from the official tourism websites, there are thousands of bloggers who narrate their personal experience about a place which helps in better planning," he says.

Saurabh's love affair with photography goes back to his college days. With a keen interest in travelling, Saurabh would often bring back pictures from his travels for his family and friends. "I would also upload my photographs in the online library on Flickr. It was from there that some publishers found my pictures and published them," says Saurabh. His pictures have been published in national and international magazines like Schmap (Ireland), The National (Dubai), Dromedar (Slovakia), Better Photography and Deccan Herald newspaper.

Though initially a hobby, getting published was the turning point for the 36-year-old who decided to make a career out of it. An MCA graduate from Pune University, Saurabh took up a basic course in photography from Osmania University and went on to do an advanced course from City of Glasgow college, UK.

"I was awarded the honorary UPI Diploma in Photojournalism in HAN PIJESAK 2013 organised by Art photo in Bosnia and Herzegovina," adds Saurabh. He has travelled to USA, UK, Scotland, Switzerland, France, Germany, Ireland and neighbouring Nepal, Bhutan and Sri Lanka. Quiz him on his favourite location? He says, "Every place has its own flavour and cannot be compared to others. My personal favourites are Hampi and Mandu and of course the Himalayas. Outside India, my favourite place is Switzerland and Scotland. I can never get tired of going there."

The photographer who regularly conducts workshops in different cities like Mumbai, Pune, Nagpur, Chennai and Hyderabad every weekend points out a few things one should keep in mind before travel photography.

The workshop on travel photography is being conducted on November 23 at Our Sacred Space. It is intended for anyone who travels even with a very basic camera. There is no age group for this workshop.

– Nidhi Gupta

TAKE NOTE

The most common mistake while doing travel photography is not doing homework well in advance. A well study about a place helps us plan better and be there at the right place and at the right time. Three tips a travel photographer must keep in mind are:

- Study the place you are going to in advance
- Know your camera well
- Be optimistic

Figure 1.9: Newspaper

In figure 1.9, you can see how the photographs are embedded with the written article. Each picture in the above figure gives an idea about the subject of the news.

NOTES: _____

_____

_____

_____

Why is photography important in our society?

Connection to the World:

Photography is a universal language. It is a medium to connect people around the world. Suppose you have to describe famous cricketer *Sachin Tendulkar*, but you haven't seen him or any of his pictures. Will you be able to develop an interest in knowing him? Certainly not, because you may lose interest as you cannot exactly imagine how he look. So, to recognise such famous personalities, photography shows its significance.

Figure 1.10: Sachin Tendulkar (Indian Cricketer)

Capture History:

"Today's photograph will be tomorrow's history". You must have heard the name of one of the greatest freedom fighters of our country, *Bhagat Singh*. His biography is well known to us, but we haven't seen him alive. With the help of photography done at that time, we can see his photos and more clearly understand his journey. Hence photographs are one of the keys to making the legends live forever in the heart of people.

Figure 1.11: Bhagat Singh
(Indian Freedom Fighter)

Research Work:

Photography has shown its significance in research & discoveries in the fields of biotechnology and space related researches. Photos are the primary keys to scientific and space discoveries and advances. Here, photography is used to gather information and make observations. For example, images of space, images of cells in biotechnology etc.

Figure 1.12: Image of Earth from space

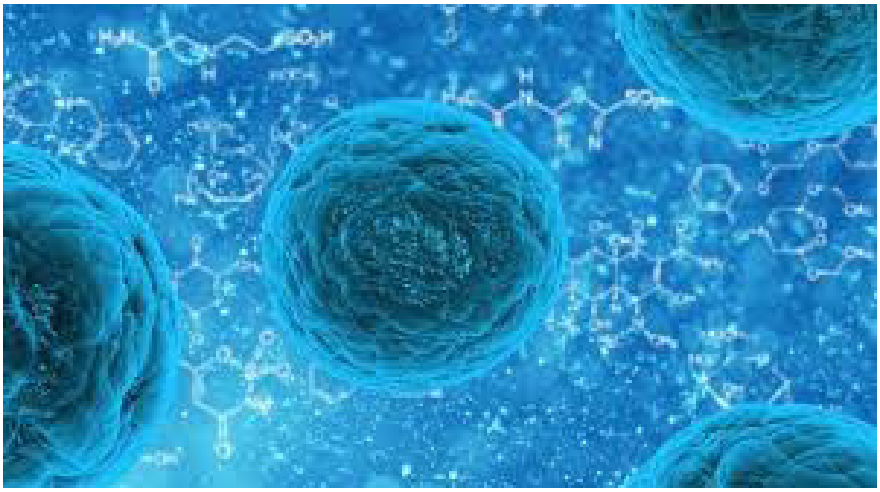


Figure 1.13: Image of cells in biology

Remembering Past:

It is an incredible feeling to watch our childhood photos. Isn't it? Photographs take us back to our old memories. We feel immense happiness looking at those photos. It also reminds us of people, places, events and emotions.

Businesses use photography for marketing:

Most companies rely on photography to sell their products. Business industries use photos for product exposure as well as marketing. Photography helps businesses to grow globally and earn money. For example, in figure 1.14, A *restaurant* poster is there, having multiple photos of its dishes. This poster helps in building publicity for the restaurant.

Figure 1.14: Poster of a restaurant

Another example is the cosmetic brand that combines all its products into one frame. Without photos of its products, it would be difficult for the company to convey their message to their audience.

Figure 1.15: Poster of a cosmetic brand

For Personal use:

You can do photography to freeze your special moment and keep it forever as a photograph. Nowadays people are fond

of doing photoshoots for various occasions such as birthdays, anniversaries, wedding ceremonies etc. Here comes an option to opt for photography as a career.

Thus, from all the above discussion, it is evident that photography has become an essential part of our daily lives.

Fill in the blanks:

1. Frederick Douglass, held a lecture called _____.
2. _____ is a universal language.
3. Today's photograph will be tomorrow's _____.
4. In research work, the significance of photography is seen in the field of _____and _____.
5. In business, most companies rely on photography to sell their _____.

1.3 History and Evolution of Photography

In prehistoric times, when man began to communicate with each other, they started drawing images on walls and similar surfaces. The idea of drawing pictures grew from drawing to painting and finally to photography.

In the early nineteenth century, the technology of photography was invented that can develop exact copies of the target scene or image. Hence camera, along with the film, made photography a reality.

The idea of the camera was discovered before photography. An Arab physicist named Ibn al-Haytham (965–1039) described the camera obscura effect in which the device pinhole camera is used to display the image.

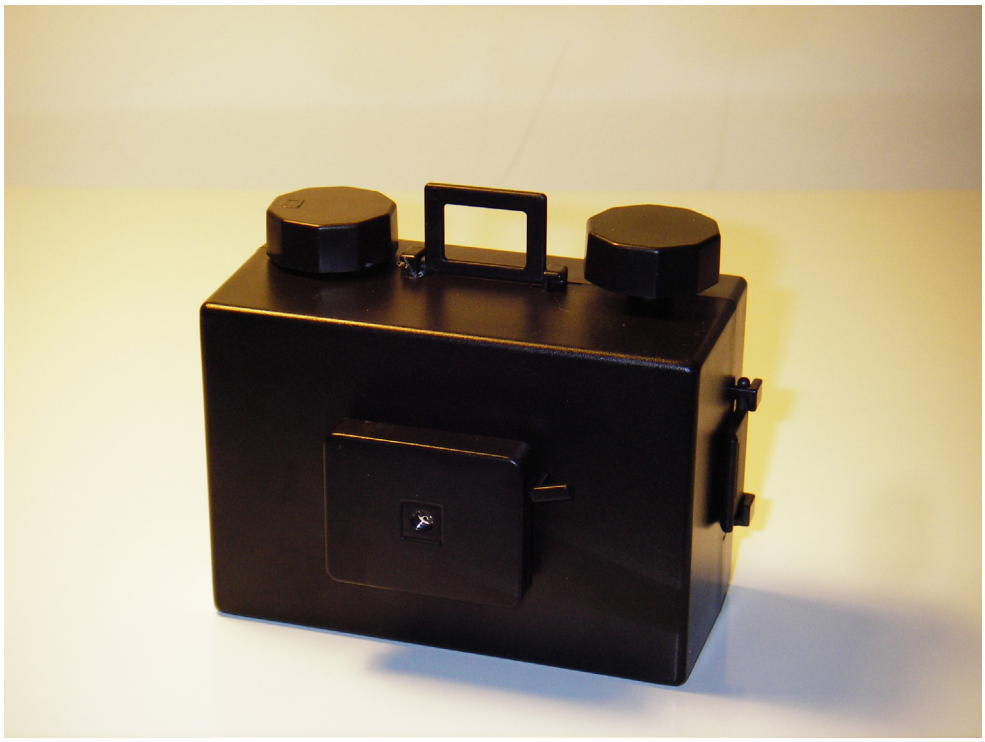


Figure 1.16: Pinhole camera

The light passing through the pinhole creates an inverted image on the opposite side of the box. Now artists can create realistic paintings by looking at the image, but this method still does not form physical photographs.

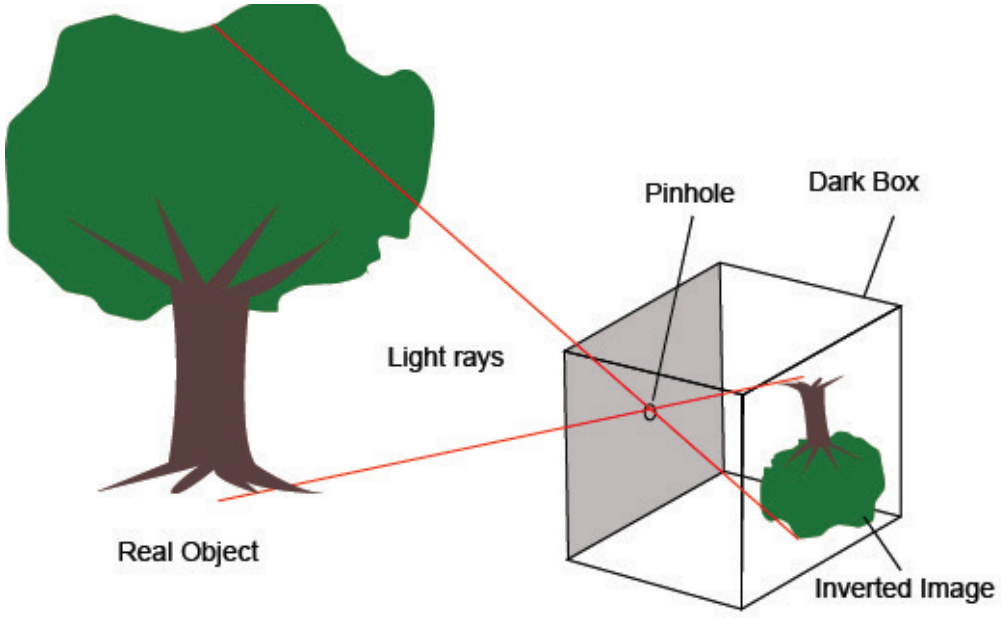


Figure 1.17: Working of a Pinhole camera

Definition

Pinhole Camera: A pinhole camera, also known as camera obscura or "dark chamber", is a simple optical imaging device in the shape of a closed box or chamber.

However, this process is very slow and requires holding the camera still for a long time. As studied in the previous section, Joseph Nicéphore Niépce developed the first photograph in 1826 in France. In pinhole cameras, people could form photos but not in physical form. They all were

in the form of light. To solve this problem, Niepce coated a pewter plate with asphalt, which grew harder when exposed to light. By washing the plate with lavender oil, he could permanently fix the hardened substance on the plate. He named this process as ***Heliography***.

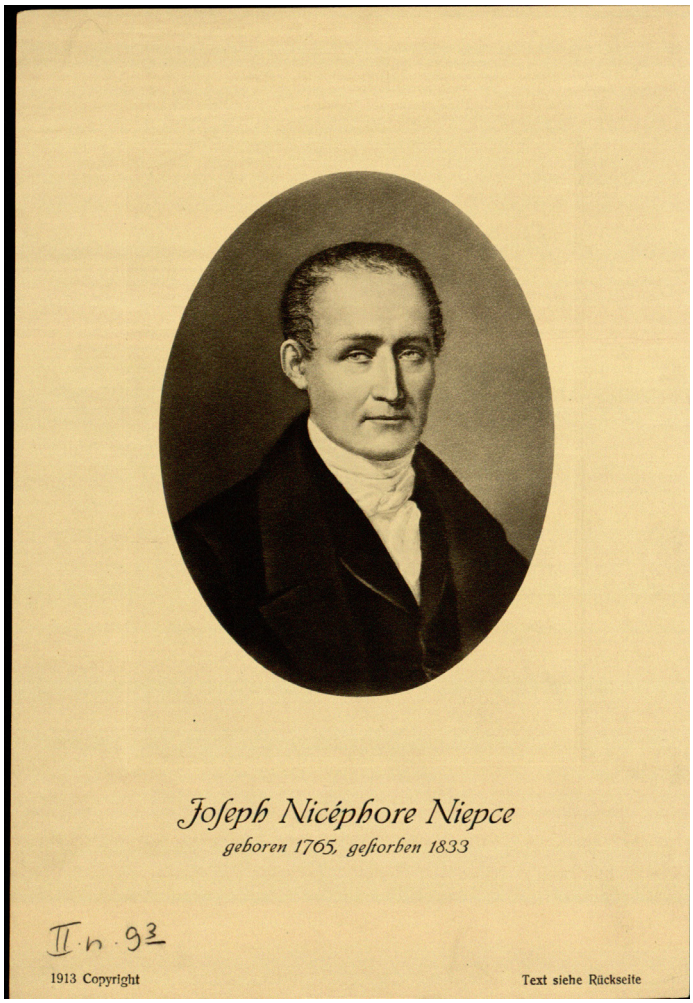


Figure 1.18: Image of Joseph Nicéphore Niépce

The next artist who contributed to the development of photography was Louis Daguerre. In 1839, Daguerre developed the first commercial photographic material; he named it "*Daguerreotype*". The first photographic camera developed for commercial manufacture was a daguerreotype camera, built by Alphonse Giroux in 1839. But images made by this camera faded quickly.

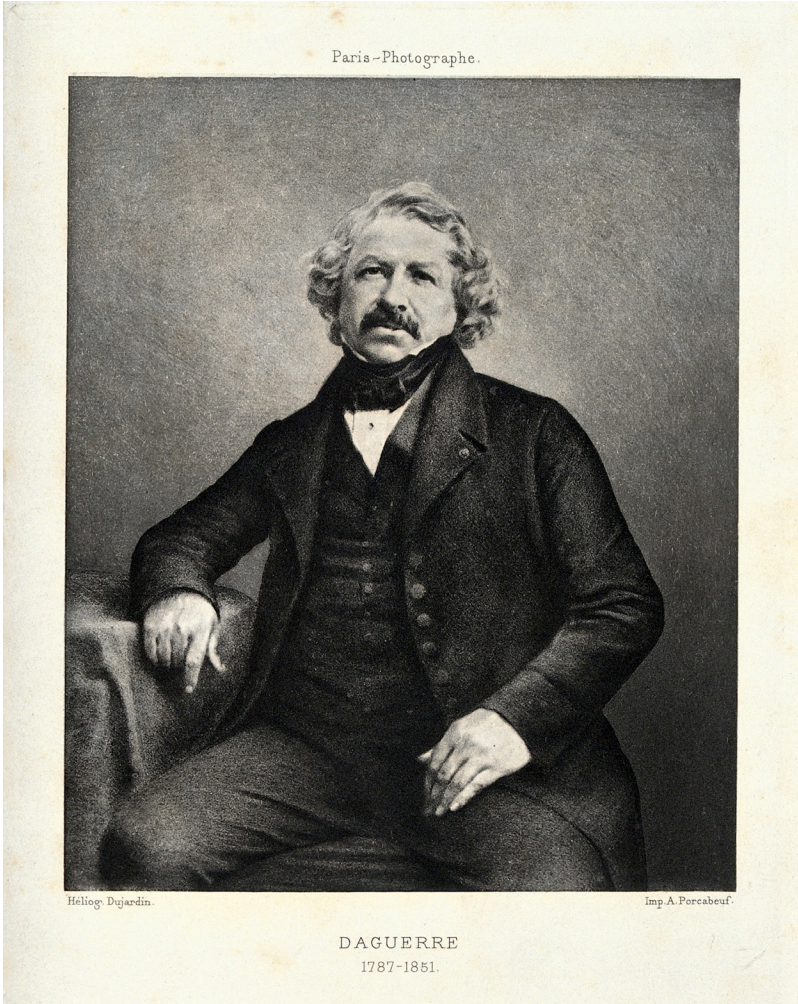


Figure 1.19: Louis Daguerre

To overcome the problem of daguerreotype camera, an American inventor Alexander S. Wolcott in 1840, invented the the mirror camera that made photographs that did not fade quickly.

Later in this series, the cameras have enhanced their photography and with the advancement of technology, we have reached the era of mobile cameras and DSLRs where photo is generated by digital sensors and are stored instantly in digital form inside the device used.

1.4 Things to Remember

Things to Remember

1. Photo means 'Light' and Graphy means 'Graphics'.
2. An Arab physicist named Ibn al-Haytham (965–1039) described the camera obscura effect.
3. The first photographic camera developed was a daguerreotype camera.
4. Joseph Nicéphore Niépce captured the first permanent photograph, in 1826 in France.
5. Text with photo is more effective and powerful for the delivery of the message.

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1.5 Practical

Practical: Demonstrate Photo Walk

Photo Walk

A walk to your favourite place with your camera to take pictures of your interest and make a story out of it.

~ You can use a mobile phone camera

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UNIT- 2
Understanding Mobile Photography

Topics Covered

2.1 Using a mobile camera
2.2 Parts of a mobile camera
2.3 Understanding and controlling Exposure.
2.4 Things to Remember
2.5 Practical

2.1 Using a mobile Camera

A mobile camera is a built-in digital camera used to capture photographs and record videos in a mobile phone. Mobile means to move freely, and the name 'mobile' in front of phone comes from here. Mobile phones are portable, i.e., we can carry them with us wherever we go. And thus, the mobile camera is also portable as it is inbuilt inside the mobile.

The first commercial phone with a color camera was the Kyocera Visual Phone VP-210, released in Japan in May

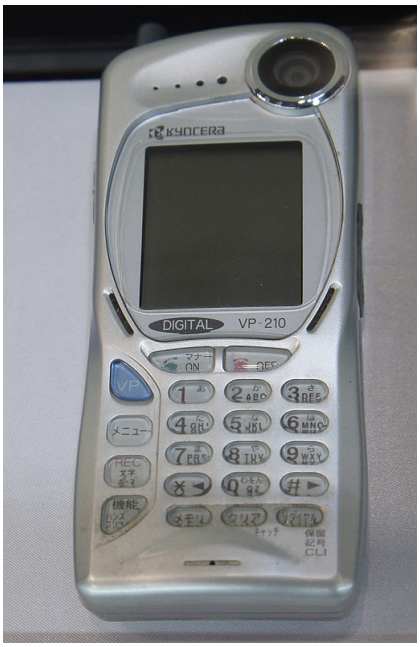
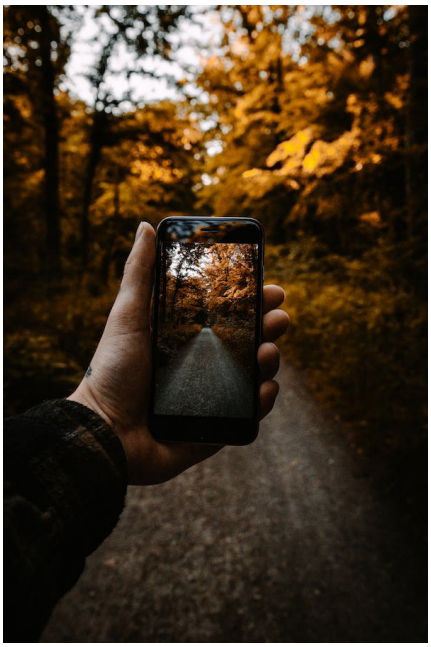


Figure 2.1: Image of Kyocera Visual Phone VP-210



1999. Today with the advancement in technology, with a simple click, the captured image is immediately turned into a digital image. And later can be converted into a physical photo by taking out its print from a printer.

In the previous unit, you have learnt about various ancient methods to do photography and generate photos out of them. The photo developed there was in the form of a light source, chemical film etc. By the end of this chapter, you will be able to realize the ease of mobile camera.

Let us first understand the basic steps included in mobile photography:

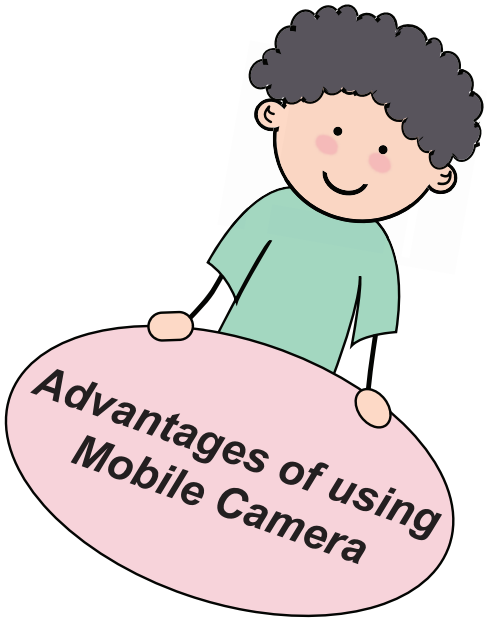
Primary Requirement: A Mobile phone also called as smartphone with an inbuilt camera.

1. Take out your mobile phone
2. Open camera application.
3. Decide the camera side you want to shoot, from back camera to capture the image infront of you or front camera to take selfie.
4. Focus your object with the desired lightening and click it.
5. Your work is done. Now open your phone gallery and watch the photo you have just clicked.

Definition

Focus: The process of making adjustments to the lens to get a sharp and clear image. It is the area where the lens work to highlight an object.

Advantages of using Mobile Camera:



1. Mobile phones are portable, so it can be carried with us to any location to capture pictures.
2. It is easy to take photographs from a smartphone as compared to a professional camera.
3. The quality of the photo is also good if you are using a high-end phone with good camera features.
4. Photos can be taken very quickly by smartphones.
5. You can take selfie from a mobile camera.

Figure 2.2: A boy taking selfie

By now, you have realized how easy it is to take a photo from a mobile phone, which is very different from ancient photography methods.

Disadvantages of Mobile Camera:

1. The quality of a photo is low compared to DSLRs
2. It has limited lens options, i.e., you have a fixed lens in mobile phones whereas there are multiple options for lenses in DSLR.
3. Zooming may create a low-quality picture.
4. In low lightening, the quality of the image may get reduced.

But due to the ease of quick and easy photography, most of us use mobile photography in our day-to-day lives.

You have now very well understood the process of using a mobile camera. Now let us see the working of mobile phone camera in the next section.

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Lets do some Fun Activity

Do it Your Yourself:

1. Click a photograph from a mobile camera by following the steps discussed in the chapter.
2. Click two photographs with one in zoom mode and other without zoom. Compare the photographs. Which one is having a clearer image?

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2.2 Parts of a mobile Camera

The most essential and necessary feature of a mobile phone is the camera. This camera is inbuilt into the phone, providing the ease to take photos easily.

Mobile phone camera consists of the following components inside it:

Lens: Lens is a collection of multiple transparent materials made of glass or plastic that bends the light coming from the image towards the camera sensor.

Figure 2.3: Mobile phone lens

Sensor: The sensor is the part of the camera that actually 'captures' the image. The lens focuses the light emitted from the image onto the sensor to get a clear picture.

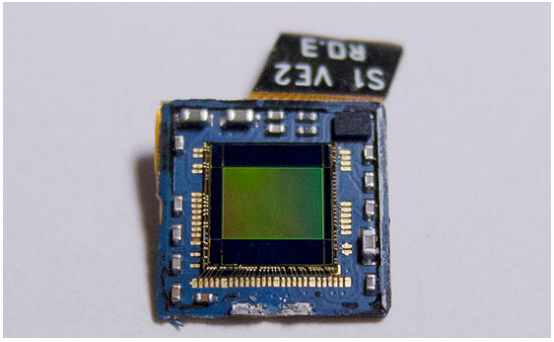


Figure 2.4: Mobile phone sensor

Fact: The sensor is a thin wafer of silicon which turns the light into electrical signals.

Photography is built on the following three pillars of exposure:

1. Aperture: An aperture in a mobile phone is a fixed-small opening that decides how much light will enter through the lens to the sensor. It is positioned between lens and shutter, see figure 2.5.

2. Shutter Speed: Shutter speed refers to the duration the image sensor is exposed to light. In traditional cameras, while capturing photos, the shutter opens for a fraction of time, allowing the light rays from the lens to hit the sensor. Smartphones uses electronic shutter which works by switching the mobile camera's sensor on and off for a fraction of time.

3. ISO: ISO is a system that refers to your camera's sensitivity to light. If ISO is high, camera sensor becomes more sensitive, and the photo gets brighter. If you take a picture in the same lighting conditions and increase the ISO value one by one, you'll produce increasingly brighter images.

ISP: An ISP or image signal processor is the most crucial part of a camera. It converts the image signals into a clear photo.

Working of the Mobile camera:

While photographing from a mobile camera, a sequence of events happen:

1. When you open your mobile phone camera, the aperture is ready to take in light rays from the image.
2. The aperture of a phone camera is fixed. So, the lens accumulates the amount of light from the image as per the size of the aperture.
3. These light signals strike the image sensor of the camera.
4. The image sensor then converts the light signals into electrical/image signals.
5. Now ISP converts the image signals into a photograph. This photograph can further be viewed on a mobile phone.

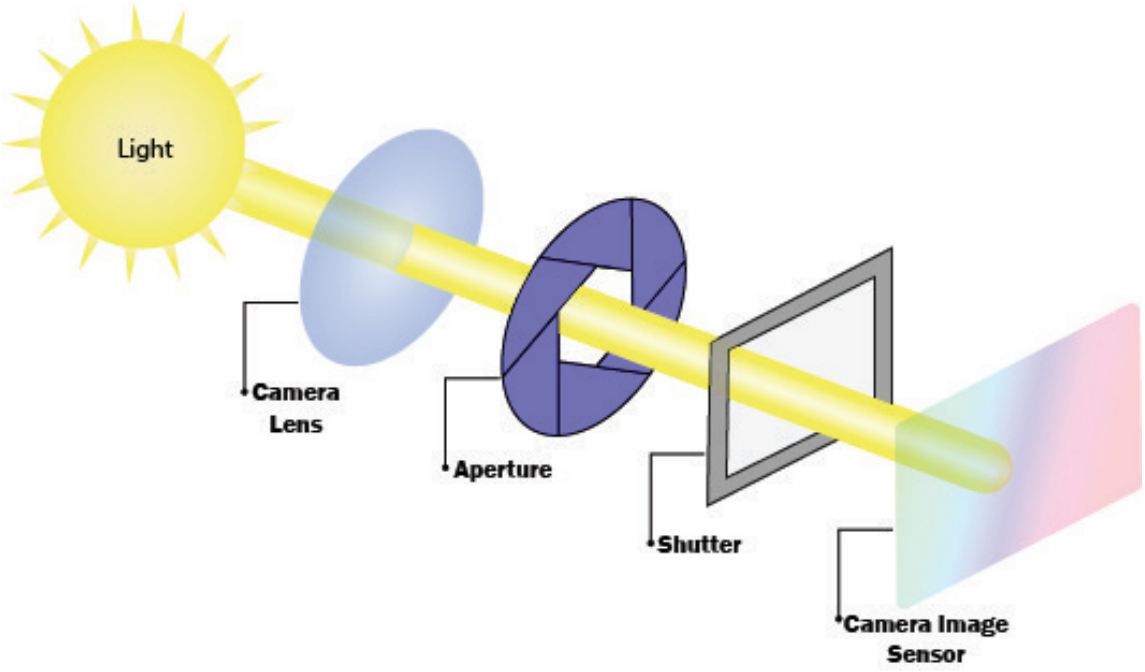
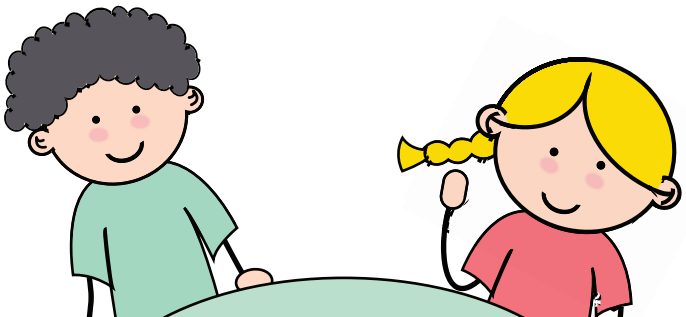


Figure 2.5: Sequence of events while capturing photo from a Mobile Camera



Lets do some Fun Activity

True or False:

1. Shutter is present between lens and aperture _____
2. The aperture of mobile camera is fixed _____
3. Light signals strike the image sensor of the camera _____
4. The sensor converts electrical signal to light signals _____
5. Smartphone uses electronic shutter _____

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2.3 Understanding and Controlling Exposure

What is Exposure: The amount of light captured by a camera sensor is called exposure. Exposure and light are the two important factors that are responsible for the brightness or darkness of your photograph.

Fact: Exposure refers to the overall brightness of an image.

Exposure can be basically categorized in two ways, underexposed and overexposed. For example, in figure 2.6, the image on the left side is dark, i.e., the image is taken in low light. Thus, the photo formed will be underexposed. And therefore, a lot of detailing is missing in the darker part of the image. Similarly, the right side of image is too much bright as the image is taken from a brighter side. So, the image formed will be overexposed. This results in the lack

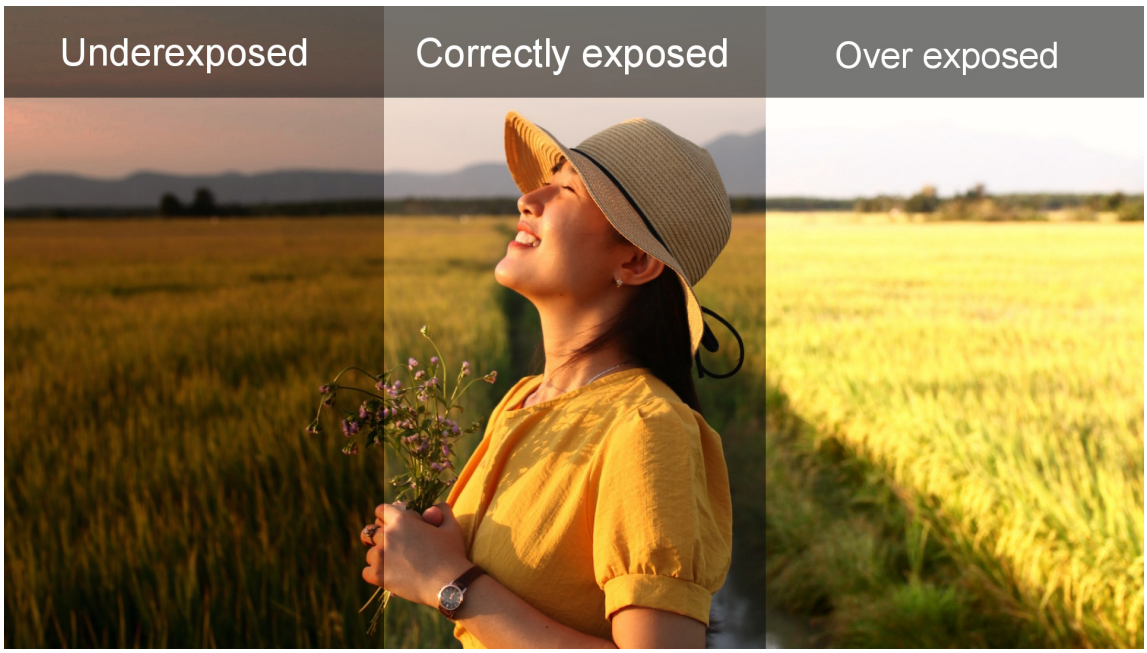

Figure 2.6: A single image showing different exposures.

of detailing in the whites of the image.

How to manually adjust the exposure while capturing a photo:

The target is to achieve a perfect photo with correct exposure.
Before capturing any photograph, the exposure needs to be adjusted correctly.

Here are a few steps to set correct exposure while capturing an image:

1. Once you have opened your smartphone camera, it will show you the live images to capture.
2. You can set appropriate exposure by touching any part of the image on the screen.
3. A circle or a square box popped up along with the exposure controlling slider as seen in figure 2.7 and figure 2.8
4. If bright side of image(clouds) is clicked as shown in figure 2.7, the overall light or brightness is reduced and this can result to an underexposed image.
5. Whereas if darker side of the screen(trees) is touched as seen in figure 2.8 then, it will add light to the overall

Figure 2.7: An Under-exposed Image

Figure 2.8: An Over-exposed Image

image and this can lead to overexposure of image.

6. So to get a perfect photo, the exposure should be correctly adjusted. You can adjust the exposure by continuously touching on the dark and bright area of the image and moving exposure slider on your screen until a perfect image is seen and then capture the photo. Figure 2.9, shows a decent image with correctly adjusted exposure.

Figure 2.9: Original Image

In this way, you can manually adjusts the exposure in the smartphone camera to get a perfectly exposed photo.

You can also use a tripod for holding your mobile camera static in any desired direction. This results in a clear image. Holding the mobile phone in your hand while capturing a photograph may lead to distortion in your shot

Figure 2.10: Tripod for holding the camera.

Follow the tips for a better Photography

Tips to do a better photography:

1. Clean the lenses for crystal clear photos
2. Set the focus to ensure your subject is clear
3. Adjust exposure for perfect brightness levels
4. Use natural light as its free of cost.
5. Focus on one subject.
6. Hold your phone still.
7. Consider buying a mobile tripod.
8. Set your camera app's exposure manually.

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Fill in the blanks:

1. Mobile phones are _____, therefore can be carried with us.
2. _____ is a universal language.
3. Today's photograph will be tomorrow's _____.
4. In research work, the significance of photography is seen in the field of _____ and _____.
5. In business, most companies rely on photography to sell their _____.

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2.4 Things to Remember

Things to Remember

1. The first commercial phone with a color camera was the Kyocera Visual phone VP-210.
2. Lens is a collection of multiple transparent materials made of glass or plastic.
3. The sensor is the part of the camera that actually captures the image.
4. Exposure is the overall brightness or darkness of a photograph.
5. Shutter speed is the length of time the shutter of the camera is open, exposing light onto the camera sensor.

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2.5 Practical

Activity 1: Demonstrate photography using a mobile.

Tips: Follow the steps as explained in the chapter.

Activity 2: Demonstrate the usage of Opencamera App for complete camera control.

Tips: Open Camera is a free Camera application. Install it in your phone and capture photos by following appropriate camera controls such as exposure, focus, shutter speed, ISO etc.

Activity 3: Demonstrate the understanding of Exposure.

Tips: Click photos from the mobile phone and try to adjust the exposure manually to get a perfect image.

Activity 4: Demonstrate Shutter Speed Control

Tips: To adjust the shutter speed, you need to be in the manual mode or pro mode of your mobile camera app.

Change the values of shutter and capture the moving images such as ceiling fan when it is switched ON or any moving vehicle.

UNIT- 3
Art of Photography

Topics Covered

3.1 Introduction to Composition

Composition is a powerful tool for capturing better photographs. It is the arrangement of different visual elements in a piece of art to make it more impressive. It can be done in paintings, photographs, print or in a play.

The beauty of composition depends on how frequently the elements interact with each other. A well-composed art is creatively successful and leaves a positive impact on the viewers. ***"You don't take a photograph; you make it"*** is well said by an American photographer, *Ansel Adams* describes composition in one line.

Figure 3.1: An example of well Composed Image

In short, composition in a photograph is how each part is placed in one frame to form a complete photo. The main aim of composition is to balance the objects (positive spaces) and negative space. A balance of positive and negative space creates a decent photograph resulting in a successful composition.

A good composition is "***the strongest way of seeing***", well said by *Edward Weston*, one of the best photographers of all time and a master of composition.

Definition

Negative Space: The area in an image where there are no objects but acts as a filler between positive spaced objects.

A good composition depends on the following factors like:

1. **Emotion:** Your composition should compliment your subject. While capturing any image consider two points: (i) What is the emotion of your main subject. (ii) How you can arrange the composition that matches to the emotion of the subject.

2. **Structure:** A composition should decide the path of the viewer's eye through the photo. It can vary from people to people, from which angle they are viewing the image, but generally, there is one point that attracts most of the viewers. The structure of the composition contains lines, shapes, texture etc, that move the eyes of the viewer towards the main subject.

3. **Control:** To achieve a well composed image, you can naturally control the arrangement of the objects present in your image before capturing it. This can be done by setting up camera angles, positions and focal length.

Figure 3.2: A composition satisfying the above three factors.

In figure 3.2, the path of our eyes follows the bridge and take us to the moon and then the mountains. This is where the structure in composition is present. Since it is night, so, the overall emotion of the composition show us a dark scene. You can also develop these types of compositions by keeping in mind its basic factors.

Now let us discuss some of the key elements of composition in photography:

1. Points: The simplest element of composition having zero dimensions. In figure 3.3, the point is the spot where two mountains meet one another and directs the viewers eyes on it.

Figure 3.3: A landscape containing point as the composing element.

2. Lines: A Line connects two different elements of the photo. Sometimes, lines in a photo are imaginary, but they still exist. For example, see figure 3.4 the imaginary

line that connects the grassland to the sky. Also in figure 3.3, there are slanting lines that divides the sand dunes.

Figure 3.4: Imaginary Line connecting sky and grassland.

3. Shapes: Shapes are the complex elements of composition. They have the power to attract the attention of the viewer. Figure 3.5 shows us the composition that drags our attention to shapes it has.

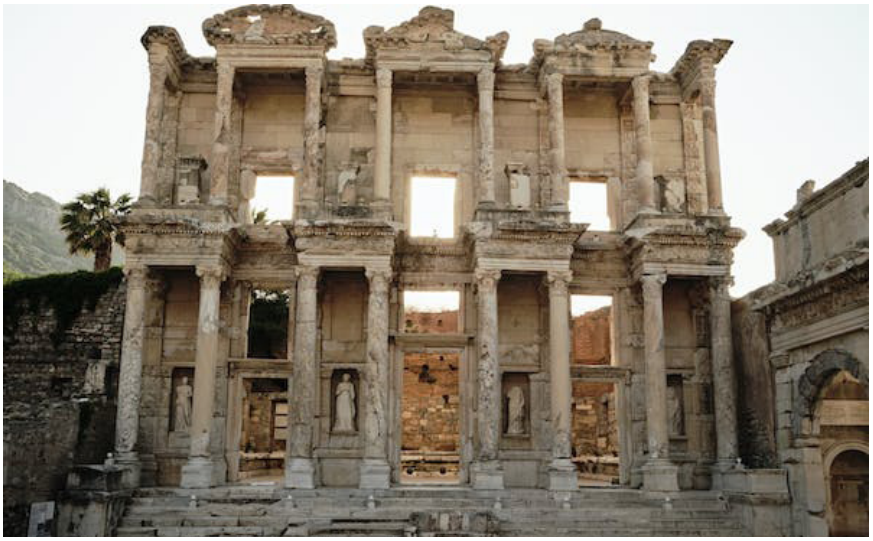

Figure 3.5: An image showing shape composition.

4. Space (Positive and Negative): The part of image that has some object which attracts the viewers is referred as positive space. Whereas negative space is the empty space which acts as a filler between the regions of positive space. In figure 3.6, the tree is in positive space and the sand near water covers the negative space.

Figure 3.6: A landscape showing positive and negative space.

By now you have very well understood the basic elements of composition in photography. A photography can have countless elements of composition. You will learn more about it in the next module.

Now let us learn about the important rules of composition in the next chapter. Following these rules can take your composition to the next level. However, it is said that ***rules are meant to be broken***, so it is not compulsory to follow these. They are like guidelines, following which a good composition can be achieved. But not following them will not lead to a bad composition.

Fill in the blanks:

1. The main aim of composition is to balance the objects and _____ .
2. A good composition is " _____ _____", well said by Edward Weston.
3. Your _____ should compliment your subject.
4. _____ are the simplest element of composition having zero dimensions.
5. _____ are meant to be broken.

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3.2 Rules of Composition

Composition is a pleasing organisation of objects within a frame. The rules of composition are the guidelines to be followed while capturing a photo inorder to achieve more attractive compositions. It is not mandatory to follow the rules. It depends on you to follow them, or make your own rule. To make the composition that pleases your eyes should be the ultimate goal.

There are several guidelines of composition in photography. Some of the most significant guidelines are the rule of thirds, leading lines and depth of field.

1. Rule of Thirds:

The rule of thirds is a compositional guideline that breaks down an image into nine equal pieces with four gridlines (two vertical and two horizontal). According to this rule, a better composition is achieved on placing the main subject in image along the intersection of gridlines, or on the left or right of the centre of the frame. The following figures are shown to make you understand how to draw gridlines. In figure 3.7 the main object i.e., the sunflower vase is at

Figure 3.7: A composition with rule of third.

Figure 3.8: A composition without rule of third.

intersection of the gridlines and towards left of centre.

It is not necessary to every time follow the rule of thirds. But to get a natural and pleasing photo, it can be followed. From the figure 3.7 and figure 3.8, you can see the difference in photography. The one that follows the rule of third is slightly more appealing than the one that does not follow it.

2. Leading Lines:

These are the lines that directs the viewer's eyes to the main subject through a path. This path is formed by the leading lines. Like the rule of thirds, leading lines are also a composition technique that can be used across all kinds of photography, from portraits to landscape shots. Leading lines can be anything. They can be

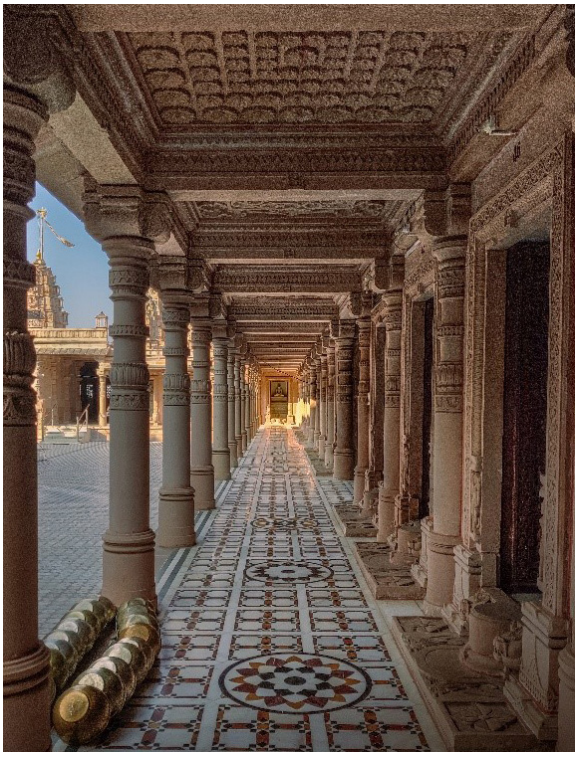

Figure 3.9: Leading Lines.

roads, bridges or a line of trees that naturally draws the viewers' attention towards the main object in the image. Leading lines can be of many types such as: horizontal, vertical, diagonal, converging and curved. Figure 3.9 shows almost all types of leading lines. There are converging lines that takes the viewers eyes from foreground towards the main object, vertical lines as vertical pillars, horizontal lines as slabs at the top, diagonal lines from the left-top corner of the front pillar towards the last pillar that is near to the main object. So, you can also conclude that there can be more than one leading line in a composition that is focusing on a single subject. A detailed study about leading lines is explained in module 2.

3. Depth of field (DOF): Depth of field refers to the portions of a photograph that are in sharp *focus*. An image can have a ***Shallow DOF*** or a ***Deeper DOF***. An image with a shallow DOF focuses on a specific small part of the image and keeps the rest of the image as slightly blurred. For example, in figure 3.10, the flower is in sharp focus keeping the mountains blur.

Figure 3.10: A composition with Shallow DOF

In an image having deep DOF, a large portion of the image is in sharp focus. Usually these are landscape photography that keeps the whole image in focus. In figure 3.11, the grasses in the foreground to the mountains in the background, has a deep DOF, i.e., they all are clearly visible.

Now you know the basic and important guidelines of composition in photography. A small exercise is there in the next section to test your understandability about this.

Figure 3.11: A composition with Deep DOF

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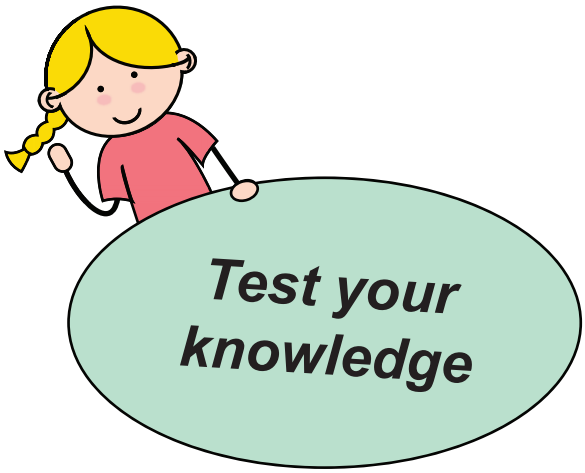

Here are few of the images. Your task is to write down what rules of composition are applied in the images. It can be more than one.

Answer: _____

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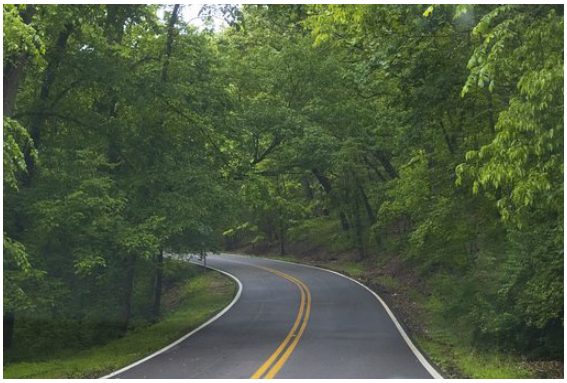

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Answer: _____

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Answer: _____

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Fill in the blanks:

1. _____ is the pleasing organisation of objects within a frame.
2. The guidelines of compositions are: _____, Leading lines and Depth of field.
3. _____ can be horizontal, vertical and curved.
4. Rule of third divides the frame into _____ equal parts
5. An image can have following Depth of fields: a _____ DOF or a _____ DOF.

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3.3 Understanding Light And Color

"Light makes photography. Embrace light. Admire it. Love it. But above all, know light. Know it for all you are worth, and you will know the key to photography." by *George Eastman, founder of Kodak*.

Light: Light and color are one of the fundamental elements of creativity in photography. Light conveys the information and emotion in an image. And the color of light can vary depending upon the light sources. Light can be both natural and artificial which allows us to create different moods and atmospheres in the image. It ranges from violet through green to red. While working with light, it is important to keep white balance in mind.

White balance: White balance determines how accurate are the colors of your photograph. It balances and corrects the color temperature in your image and set the image as neutral.

Color: Colors have a unique quality to connect and interact with viewers. Colors are classified into two categories: *Warm colors* and *Cool colors*. With the correct implementation of colors in work, one can invoke certain vibes and emotions in the viewers.

Color Temperature: Color temperature is a measurement of the warmth or coolness of light. It is a system that uses numerical values to measure the color characteristics of a light source on a spectrum ranging from warm colors to cool colors. The numerical values are referred to as degrees Kelvin (K). Higher values are cooler tones such as blue. Lower values are warmer tones such as orange.

A blue sky, for instance, measures 12000 K, whereas a candle light, however, measures at 1500 K.

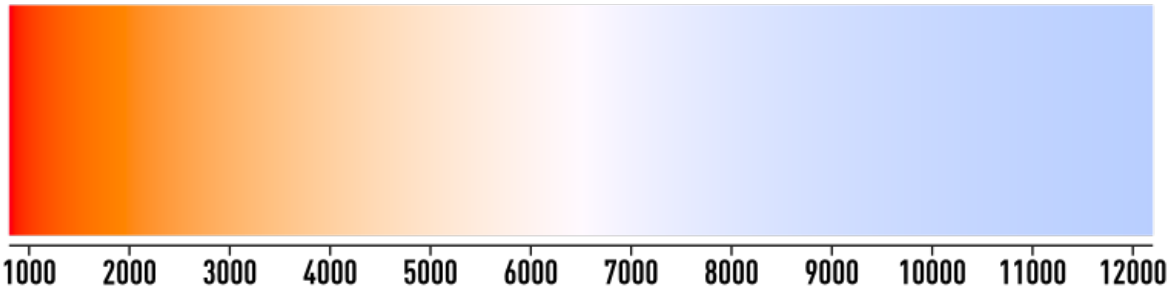


Figure 3.12: Kelvin scale to measure color temperature

Definition

Color: A component of light that is separated when it is reflected off of an object.

Figure 3.13: The before and after of color balancing of the image.

In figure 3.13, you can clearly see the difference between the two images. In the first image the colors are not properly balanced, whereas in second image a proper balance of color is maintained. It looks more natural and realistic. Thus it is very important to maintain the white balance and color temperature in an image.

Lights in Photography

There are many factors that contribute to great photography but none can compete with light, as without light the image will be completely black. The presence of light starts the tour of photography.

Light in photography refers to how the light source is positioned in relation to your subject. As studied above there are mainly two types of lights natural light and artificial light. The position and quality of light can greatly affect your photo. In module 3, a detailed explanation is done on how positions of light source affects the photography. But for now let us understand the two types of lights used in photography.

Natural Light

Natural light is anything that occurs without human interference. It can be the sunlight on a bright day, the dull light created on a cloudy day, and the light of the moon at night. In natural light photography, it is advisable to capture the scene at its best in the golden hours of the day.

Now, what is golden hour? It is a period just after sunrise and shortly before sunset. The light at this time is warm and soft and satisfies most of the compositions.

Artificial Light

Light is the main ingredient in a photograph. Sometimes the natural light isn't available at the time of need, so we have to use artificial light sources. The need for artificial light arrives when we require some extra light other than natural light or we require some additional colors in the light or we want to control the light for creative purposes. Some of the popular artificial lights used are strobe lights, LED Lights, flashes, CFL(Compact Fluorescent Light) etc. A detailed study of these lights will be studied in module 3.

Difference between Natural & Artificial Light:

Natural Light	Artificial Light
The light is naturally produced by the sun and moon.	The light is produced by man-made equipments, such as flash, lights, bulbs etc.
It is freely available i.e.; it is free of cost.	It is not freely available; you have to purchase it.
Its intensity varies on different times of the day and on weather conditions.	Its intensity is independent of time and weather conditions.
Amount of light focusing on the subject cannot be controlled.	Amount of light can be easily controlled as per the requirement.
You cannot change the color of light.	Color of the lights can be changed as per the requirement
It works best for outdoor photography.	It works best for both indoors and outdoors.

Figure 3.14: Natural Light Photography

Figure 3.14 shows the photography done in natural light and figure 3.15 shows indoor photography with artificial light sources.

Figure 3.15: Artificial Light Photography

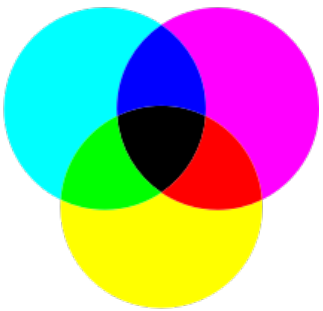
Colors in Photography

Color Theory: The *art* and *science* of applying colors in our compositions is referred to as color theory. In color theory, colors are organized on a color wheel and grouped into 3 categories: *primary colors, secondary colors* and *tertiary colors*.

Issac newton came up with the concept of the color wheel in 1666. It is a circle with a color spectrum mapped on it. The color wheel helps us to understand and apply the color harmonies in our work. Before learning color wheel, let us understand the two color mixing models, RGB and CMYK. The RGB model is the additive color mixing model that allows you to create colors by mixing red, green and blue light. Whereas CMYK model or the subtractive color mixing model subtracts the light from the paper by adding more color.

RGB

Figure 3.16: RGB Model



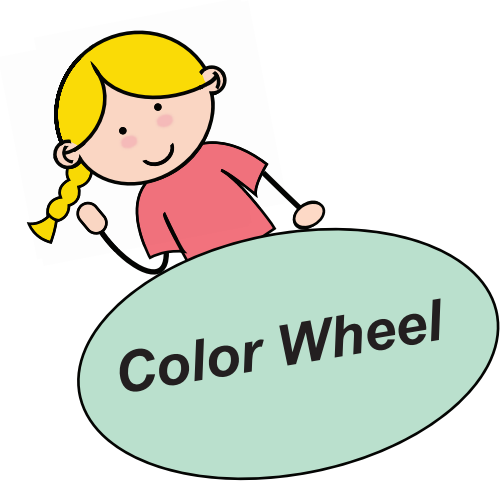
CMYK

Figure 3.17: CMYK Model

In above figures, RGB stands for Red, Green and Blue and CMYK stands for Cyan, Magenta, Yellow and Key or black.

Fact:

- RGB color mode is used for screen displays.
- CMYK color mode is used for printing.



Color Wheel: There are 12 main colors on the color wheel. They are: red, orange, yellow, chartreuse green, green, spring green, cyan, azure, blue, violet, magenta and rose.

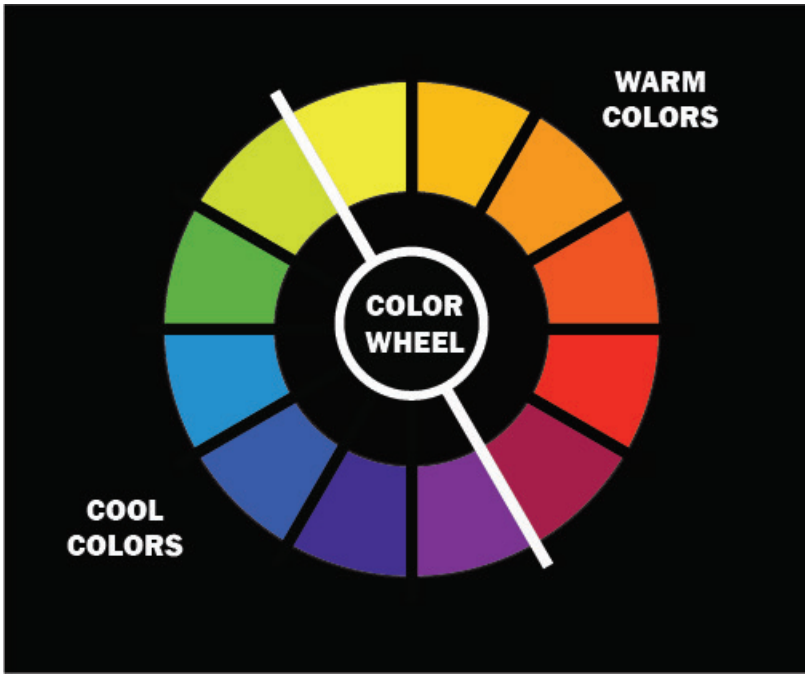


Figure 3.18: Color Wheel.

Categories of color wheel:

1. **Primary Colors:** These colors are also known as primary RGB colors. R stands for Red, G stands for green, and B stands for blue. As the name suggests, these colors are naturally available, and all the remaining colors in the spectrum are obtained by mixing at least two of them.

2. **Secondary Colors:** These colors are obtained by mixing any two of the primary colors. Yellow, Cyan and magenta are the secondary colors.

3. **Tertiary Colors:** Tertiary color is obtained by blending primary and secondary colors. Orange, chartreuse green, spring green, azure, violet and rose are tertiary colors.

Types of colors in a color wheel:

The color wheel is divided into warm colors and cool colors. Warm colors are used to define the feelings of warmth, such as reds, oranges and yellows. Whereas cool colors define the feelings of coolness, such as greens, blues and purples. Figure 3.18 shows the color wheel that describes the range of warm and cool colors. The white line in the figure separates the warm colors and cool colors.

Color Scheme: A color scheme is the logical combinations of color available in color wheel. Certain moods and emotions can be created through different color schemes. Let us discuss the various color schemes that are generated by the combination of colors on a color wheel.

1. **Monochromatic Color Scheme:** Monochromatic color schemes are easy to create because they use only one base color. Monochromatic artwork can be done by using the tints, tones or shades of a color. Figure 3.19 is the example of monochromatic artwork.

Figure 3.19: Monochromatic art.

2. **Analogous Color Scheme:** It is the combination of colors that are adjacent to each other in a color wheel. Two to a maximum of five colors that are adjacent to each other on a color wheel are utilised in an analogous color scheme. For example, yellow-green, green, blue-green, blue and blue-violet forms this color scheme.

3. **Complementary Color Scheme:** Using two colors that are exactly opposite to each other in a color wheel. For example, blue and orange, violet and yellow, red and green etc.

4. **Split Complementary Color Scheme:** This color scheme is formed by the combination of three colors.

Select any color and other two colors are the adjacent of the complement of the selected color. For example, if first color is red, then other two colors will be the colors that are adjacent to green, i.e., blue-green and yellow-green. And green being the complement of red.

5. **Triadic Color Scheme:** Three colors are evenly spaced on a color wheel to form a triadic color scheme. These color combinations are usually bold and vibrant. One of the examples is blue, red, yellow.

Characteristics of Color:

1. **Hue:** It is the purest and brightest form of color. All primary and secondary colors are considered as 'hues'
2. **Saturation:** The purity of a color which determines its relative brightness or dullness.
3. **Value:** The relative lightness or darkness of a color.
4. **Shade:** The addition of '*blacks*' with any given hue results in the formation of shade.
5. **Tint:** The addition of '*whites*' with any given hue results in the formation of tint.
6. **Tone:** The addition of '*greys*' with any given hue results in the formation of tone.

Fill in the blanks:

1. Light makes _____ .
2. Colors are classified into two categories: _____ colors and _____ colors.
3. _____ is a component of light that is separated when it is reflected off of an object.
4. There are _____ main colors on the color wheel.
5. _____ color mode used for printing.

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3.4 Understanding Basic Camera Angles

Angle is the degree at which camera faces the subject. Camera angle and camera position are composition techniques, which can make a huge difference in your photography. It is always better to decide the position first and then the angle. You can change your photos' composition based on your camera's position and angle.

Position is the level where you hold the camera. Combination of position and angle of a camera can result in an outstanding composition. The only thing you need to do is to move your camera in different directions and angles until you get a satisfactory and pleasing image.

Let's discuss the basic camera positions and angles for photography:

Position: There are three positions in which you can hold the camera.

1. **High Position:** In this position, the camera is held high by raising your arms above your eye level to capture a deep background. Combining it with a high camera angle creates better photography.

Figure 3.20: Camera at High Position.

2. Eye-level Position: This is a standard shooting position. It gives a realistic representation of the image. The position of the camera is at your eye level.

Figure 3.21: Camera at Eye-level Position.

3. Low Position: The position of the camera is lower than your eye level. It is usually combined with low-angle camera shots to get an impressive shot.

Angles: Similar to positions there are three angles in which you can hold the camera.

1. High Angle: The angle of the camera is tilted downwards towards the face of the subject. It results in a descriptive picture which captures the surroundings. It is also referred to as a bird's eye view.

Figure 3.22: Camera at High Angle.

2. Eye-level Angle: The camera is held to a height, same as your eye level, without tilting it. The image shot from this angle has a sense of stability.

Fact:

- High angle shot can make the subject look small or weak.
- A low-angle shot (LA) has the power to make the subject look powerful or threatening.
- A neutral shot or eye-level (EL) shot has little to no psychological effect on the viewer.

3. Low Angle: In this angle, the camera is projected upwards at the subject, i.e., shooting a higher-level subject from a low angle to create a sense of depth.

Figure 3.23: Camera at Low Angle.

Let us practically look at the photographs shot from different camera angles:

Figure 3.24: High Angle shot

Figure 3.25: Eye-level Angle shot

Figure 3.26: Low Angle shot

By now, you have understood the basic camera positions and angles. Figures 3.24, 3.25 and 3.26 shows the images that were captures by different camera angles.

Figure 3.24 shows a high angle shot, figure 3.25 is an eye-level shot and figure 3.26 is a low angle shot.

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3.5 Things to Remember

Things to Remember

1. Composition in a photograph is how each part is placed in one frame to form a complete photo.
2. Rule of thirds, Leading lines and Depth of field are the basic composition rules to enhance your photography.
3. Leading lines can be horizontal, vertical, diagonal, converging and curved.
4. There are 12 colors in a color wheel. It is divided into warm colors and cool colors.
5. There are three types of positions and three types of angles that is implemented in photographing.

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3.6 Practical

Activity 1: Demonstrate usage of rules of composition in photography

Tips: Capture images from your mobile camera by keeping in mind the rules of composition studied in this unit.

Activity 2: Demonstrate Basic camera angles.

Tips: Capture images from different angles and positions.

Activity 3: Demonstrate creation of a photo story.

Tips: Photo Story: To present a story with the help of only photographs.

Summary

In this module you have learned about the process of photography from ancient time to present. You are now familiar with the working of mobile camera and how efficiently you can capture photographs out of it. You can adjust focal-length, exposure, camera angles to get a pleasing image. Following the rules of composition adds a beauty to your captured photographs. You also have the basic understanding of color theory. Now you are ready to analyse the photographs by applying all the techniques you have learned so far. Let's learn to do critical analysis of an image in the next unit.

UNIT- 4
Practical Photography: Projects and Assignments

Topic Covered

4.1 Critical Analysis of Master photographers' work
4.2 Assignment and Projects

4.1 Critical Analysis of Master photographers' work

Critical Analysis: Critical analysis is the process of carefully examining and providing necessary improvement in someone's work. The work can be in the form of text and artworks such as paintings, photographs etc. Evaluating the work and providing appropriate judgement is known as critical analysis. It is subjective writing which expresses the interpretation and analysis of the work done by the artist. A good critical analysis examines the work in a balanced way that showcases its positive and negative aspects.

Steps to do critical analysis:

The first and foremost step to do critical analysis is to understand the work done by the artist in any piece of art. For example, if the image you are analysing is from a poem, then you should know the insights of that poem. Once you understand the theme and story of the poem, you can start analysing the picture. Now based on the few points you can start the analysis of any work.

1. **Creating a format:** Make small points on your initial thoughts and suggestions while looking at the photograph. Then elaborate on your thoughts on the various points you have noted. Firstly, appreciate the artist in the areas of positive sides of art and then add your advice to the parts which are less impressive but in a positive and constructive manner.

2. **Evaluating Technical Components:** The technical Components such as shutter speed, exposure and focal length of the camera is analysed and suggestions are provided if anything needs to be changed. By varying focal lengths and exposure, there can be a different view of the image. You can suggest the artist, by different settings of these technical components.

3. **Analyse the Composition:** This can be done by applying various rules of compositions like rule of thirds, leading lines, depth of fields, camera angles and camera positions. The image should be well balanced by positive and negative spaces. Analyse the color theory of the image along with the background.

4. **Maintaining a Constructive Tone:** The tone of the suggestions given by you should be positive and constructive. This is the golden rule which must be kept

in mind while criticizing anyone's work. Always elaborate on the points you have criticized and provide necessary opinions in a fair tone as this will help the artist improve his work in a positive direction.

Here are few examples to do critical analysis of a photograph/painting:

1.

Figure 4.1: Historic Photograph

In figure 4.1:

1. The texture and design of the image is giving a historic feel with perfect exposure.
2. Leading lines are directing our eyes towards the main focus of the image.
3. A transition from shadows to light is beautifully captured.

4. The composition is well balanced by negative and positive space.
5. The aesthetic of the image is well maintained.

2.

Figure 4.2: The Lady of Shalott by John William Waterhouse

The Lady of Shalott is an iconic painting by *John William Waterhouse.*

In figure 4.2:

1. This is a well composed painting, defining the main objective of the scene.
2. The lady's face looks pale in color representing her sadness.
3. The artist used warm color palette across the lady which supports the depressive mood of the lady.
4. The artist uses natural light to maintain realism of the scene.
5. The piece of art has appropriate exposure with a blend of counter shadow.

4.2 Assignments and Projects

Activity 1: **The Alphabet Project**

Tips:

1. The participant should take 26 photographs focusing on 1 distinctive subject in each one.
2. All 26 subject names should start with each letter of English alphabet.

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Activity 2: **The Color Wheel Project**

Tips:

1. Participant should take 15-20 photographs
2. The dominant color of the frame should be different in each of the photos.
3. Present the photographs in order of the colors present on a color wheel

Activity 3: **The Number Project**

Tips:

1. The participants should take 10 photographs
2. Each of the photographs should represent a number from 1 to 10

Activity 4: **Landscape Project**

Tips:

1. The participants should take 5 photographs of Landscapes, urban or nature
2. The photographs should show different times of the day or seasons or any other visual variation.

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References and Books

References:

1. Wikipedia
2. capturetheatlas.com
3. vectorstock.com

Books:

1. Understanding Exposure by Bryan Peterson
2. Collins Complete Photography Course by John Garrett
3. The Art of Photography: An Approach to Personal Expression by Bruce Barnbaum