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لبیک لبیک یا رسول اللہ ﷺ

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Mcd:401 Midterm&Important Questions:

Answer by Ifraheem hussain

District Jhelum Compus Mandi Bahauddin number 0342-6692724

Which lens is used in camera straight line to curve line?

Answer:

In photography, a rectilinear lens is a photographic lens that yields images where straight

features, such as the walls of buildings, appear with straight lines, as opposed to being curved. In

other words, it is a lens with little or no barrel or pincushion distortion.

Question: What is Shutter speed??

Answer:

In photography, shutter speed or exposure time is the length of time when the film or digital

sensor inside the camera is exposed to light, also when a camera's shutter is open when taking a

photograph. The amount of light that reaches the film or image sensor is proportional to the

exposure time.

What is a Camera Shutter?

A camera shutter is a curtain in front of the camera sensor that stays closed until the camera fires.

When the camera fires, the shutter opens and fully exposes the camera sensor to the light that

passes through the lens aperture.

Question: what is photography?

Answer:

The art or process of producing images by the action of radiant energy and especially light on a sensitive surface (such as film or an optical sensor).

Examples of photography in a Sentence Studied both film and still photography landscape photography is her hobby.

Difference between macro micro and close up photography

Macro photography

Macro photography is that which is taken with a dedicated macro lens. A real macro lens has the

capability of achieving in the least a 1:1 magnification. Just because a camera has the word

macro written on it, doesn’t make it a true macro lens.

Close up photography

Close up photography, is the act of photographing objects such as flowers or insects in close

range so the subject you are photographing fills the frame. In other words, it’s the act of

photographing subjects close up. This is easily achievable with any lens, even a 300mm

telephoto lens.

pinhole camera

A pinhole camera is a simple camera without a lens and with a single small aperture, a pinhole

– effectively a light-proof box with a small hole in one side. Light from a scene passes through

this single point and projects an inverted image on the opposite side of the box

Digital camera

A digital camera is a camera that captures photographs in digital memory. Most cameras produced today are digital,[1] largely replacing those that capture images on photographic film. Digital cameras are now widely incorporated into mobile devices like smartphones with the same or more capabilities and features of dedicated cameras.

Aspect ratio

Aspect ratio describes the ratio between the width and height of an image or screen.

Depth of field

Depth of field is the distance between the closest and farthest objects in a photo that appears acceptably sharp.

In photography,

Depth of focus

depth of focus describes the relationship between the camera lens and the image plane (the film plane or camera sensor).

Question: What Is Exposure in Cameras?

Camera exposure is the overall brightness or darkness of a photograph. More specifically, it's the amount of light that reaches the film or camera sensor when a picture is being taken.

Film Speed

“Film speed is the measure of a photographic film's sensitivity to light, determined by sensitometry and measured on various numerical scales, the most recent being the ISO system. A closely related ISO system is used to measure the sensitivity of digital imaging systems.”

Exposure Meter:

In digital photography exposure meter is an instrument for measuring the amount of light falling

on or being reflected by a subject, and usually equipped to convert this measurement into usable

information, such as the shutter speed and aperture size required to take a reasonable photograph.

Film grain:-

Film grain or granularity is the random optical texture of processed

photographic film due to the presence of small particles of a metallic

silver, or dye clouds,

Television standards conversion

Television standards conversion is the process of changing

a television transmission or recording from one television system to

another.

Light meter

A light meter is a device used to measure the amount of light.

Light meters in cameras react to how intense the light is as seen from the camera.

Gray card:-

A gray card is an object of neutral color which reflects a certain amount

of light.

ographer.

Types of Light Metering

There are two Basic types of light metering

1. Incident Metering

2. Reflected Metering

1. Incident Metering

The incident meter is aimed at the light source and measures the light source falling directly on a

scene and is not influenced by the reflectance of the subject being photographed. For more

precise control of the photograph, incident meters are also used to measure various levels of light

from multiple sources falling on separate parts of a scene.

2. Reflected Metering

Reflected metering reads the intensity of light reflecting off the subject and may vary according

to variances in tonality, color, contrast, background, surface, or shape. Meters are designed to

regard all subjects as 18° neutral gray reflectance. Reflected measurement of any single toned

area will result in a neutral gray rendition.

What is the Sunny f/16 Rule?

The Sunny 16 Rule is a way to meter for correct exposure during daylight without using the

camera’s meter.

How does the sunny 16 rule work?

The sunny 16 rule works like this:

On a clear and sunny day, at an aperture of F/16, you will get a correct exposure if you use a

shutter speed that’s the inverse of the ISO speed you’re using.

UV Filter

Ultra Violet filters are transparent filters that block ultra-violet light, in order to reduce the

haziness that is noticeably apparent in some daylight photography.

s

Filter Factor

Filters change the dynamics of the light entering the lens and usually require you to alter your

exposure to compensate for this fact. This is called the Filter Factor and each filter has a specific filter factor.

Rule of Thirds

The Rule of Thirds is perhaps the most well-known principle of photographic composition. Rule

of third is also known as “Rule of Golden means”.

Difference between hard light and Soft light.

Hard Light

t Hard light coming from a source that's small compared to the subject casts hard

shadows and has high contrast. Outdoors you see this light on a bright sunny day. The sun may

be very large but it's also far away and small in the sky so it casts hard light on subjects.

Soft Light

Soft light falling on the subject from a source that's large compared to the subject,

wraps light around the subject, filling shadows and lowering contrast. Outdoors you see this light

on a cloudy bright day when the entire layer of clouds is the light source.

Backlighting

Lighting design

In lighting design, backlighting is the process of illuminating the subject from the back. In other words, the lighting instrument and the viewer face each other, with the subject in between. This creates a glowing effect on the edges of the subject, while other areas are darker.

Types of lenses

1. Fixed Focal Lens/ Prime lens: -Also referred to as a "prime lens," the fixed focal length lens

(FFL) has a focal length that is not adjustable. Photographers are unable to zoom in and out on a

particular subject when using a prime lens.

Zoom lens

. A zoom lens is a variable focal length lens. It allows the camera operator to zoom in and zoom out on a subject without moving the camera forward or backward. The zoom lens enables the camera operator to select any coverage within its range

. Wide angle lens:

- A wide-angle has a shorter focal length (10 thru 42mm) when compared to

a standard lens. This enables you to capture a comparatively wider angle of view.

Tele-photo lens: -

Telephoto lenses (100mm - 800mm) can provide you with a narrow field of

view. These long lenses enable you to compress a distance (and compress the sense of depth, as well) and pick out specific objects from far off.

Macro/Micro photography lens: -

Macro lenses are used for close-up or "macro"

photography. They range in focal lengths of between 50-200mm. These lenses obtain razor-sharp

focus for subjects within the macro focus distance, but lose their ability for sharp focus at other

distances. These lenses enable the photographer to obtain life-size or larger images of subjects

like wasps, butterflies, and flowers.

Film Reel

Reel, in motion pictures, is a light circular frame with radial arms and a central axis, originally

designed to hold approximately 1,000 feet (300 m) of 35-millimetre motion-picture film.

Film Exposure

Exposure in film photography is defined as the quantity of light that is allowed through the

camera lens and onto the photo film controlled by the intensity of light (through the aperture) and

length of time (determined by the shutter speed).

The History of 35mm Film

The first machine patented in the United States that showed animated pictures or movies was a

device called the "wheel of life" or "zoopraxiscope". Patented in 1867 by William Lincoln,

moving drawings or photographs were watched through a slit in the zoopraxiscope. However,

this was a far cry from motion pictures as we know them today. Modern motion picture making

began with the invention of the motion picture camera.

1. Film Speed

“Film speed is the measure of a photographic film's sensitivity to light, determined by

sensitometer and measured on various numerical scales, the most recent being the ISO system. A

closely related ISO system is used to measure the sensitivity of digital imaging systems.

Producers & Directors

Producer

The producer is generally responsible for a specific production. Usually the producer is

concerned with the business organization, budget, the choice of the staff and crew,

interdepartmental coordination, script acceptance, and production scheduling.

The Director of Photography

A cinematographer or director of photography (sometimes shortened to DP or DOP) is the chief

over the camera and lighting crews working on a film, television production or other live action

piece and is responsible for achieving artistic and technical decisions related to the image.

Three stages of production

Most programs go through three main stages:

1. Planning and preparation

The preliminaries, preparation, organization, and rehearsal before the production begin. Ninety

percent of the work on a production usually goes into the planning and preparation phase.

2. Production

Actually shooting the production

3. Post-production

Post production includes Editing, additional treatment, and duplication of production.

History of Photography

The history of photography has roots in remote antiquity with the discovery of the principle of the camera

obscura and the observation that some substances are visibly altered by exposure to light. As far as is

known, nobody thought of bringing these two phenomena together to capture camera images in

permanent form until around 1800, when Thomas Wedgwood made the first reliably documented although

unsuccessful attempt. In t h e mid-1820s, Nicéphore Niépce succeeded, but several days of exposure in the

camera were required and the earliest results were very crude. Niépce's associate Louis Daguerre went on

to develop the daguerreotype process, the first publicly announced photographic process, which required

only minutes of exposure in the camera and produced clear, finely detailed results. It was commercially

introduced in 1839, a date generally accepted as the birth year of practical photography.

History of Camera Pinhole, Brownie, 35mm

. Pinhole Camera

A pinhole camera is a simple camera without a lens and with a single small aperture, a pinhole – Effectively

a light-proof box with a small hole in one side. Light from a scene passes through this single point and

projects an inverted image on the opposite side of the box. A Pinhole camera is also known as camera

obscura.

In the 5th century BC, the Mohist philosopher Mozi in ancient China mentioned the effect of an inverted

image forming through a pinhole.[3] The image of an inverted Chinese pagoda is mentioned in Duan

Chengshi's (d. 863) book Miscellaneous Morsels from Youyang written during the Tang Dynasty (618–

907).[4] Along with experimenting with the pinhole camera and the burning mirror of the ancient Mohists,

the Song Dynasty (960–1279 CE) Chinese scientist Shen Kuo (1031–1095) experimented with the camera

obscura and was the first to establish geometrical and quantitative attributes for it.

3. 35mm

In 1948, Olympus introduced the Olympus 35I, the first 35mm camera released on the Japanese domestic

market. However, the market for 35mm cameras was still in its formative stages, and for some time

Olympus also sold medium-format and twin-lens reflex cameras, such as the Chrome Six and Flex, in

addition to the 35I. Eventually 35mm cameras became the dominant products in the market. Olympus

expanded the potential of 35mm cameras by introducing a number of innovations, including wide-lens

cameras, cameras with built-in exposure meters, and exchangeable lens cameras.

What is a DSLR (Digital SLR)?

DSLR stands for “Digital Single Lens Reflex”. In simple language, DSLR is a digital camera that uses mirrors

to direct light from the lens to the viewfinder, which is a hole on the back of the camera that you look

through to see what you are taking a picture of.

) What do DSLR cameras consist of?

Describe UV filters

UV filters are supposed to block UV light. So, for the newcomers to photography let's

first look at what UV light is and why you would want to block it.

The "traditional" visible spectrum runs from red to violet. Red light has the longest

wavelength and violet the shortest. Light which has a longer wavelength than red is

called infrared, and light which has a shorter wavelength than violet is called ultra violet

or UV.

camera lens

A camera lens (also known as photographic lens or photographic objective) is an optical lens or

assembly of lenses used in conjunction with a camera body and mechanism to make images of

objects either on photographic film or on other media capable of storing an image chemically or

electronically.

Convex Lens

A convex lens is thicker at the center than at the edges.

Convex lenses are thicker at the middle. Rays of light that pass through the lens are brought

closer together (they converge). A convex lens is a converging lens

Concave Lens

A concave lens is thinner at the center than at the edges

Concave lenses are thinner at the middle. Rays of light that pass through the lens are spread out

(they diverge). A convex lens is a diverging lens.

Macro Lens

The official definition of a macro lens is that it should be able to reproduce a life-sized image of

an object on the recording medium – in this case the image sensor.

Micro Lens

A microlens is a small lens, generally with a diameter less than a millimetre (mm) and often as

small as 10 micrometres (μm). The small sizes of the lenses means that a simple design can give

good optical quality but sometimes unwanted effects arise due to optical diffraction at the small

features

APERTURE

“Aperture is the size of the opening in the lens when a picture is taken”

Aperture is a hole within a lens, through which light travels into the camera body. It is easier to

understand the concept if you just think about our eyes. Every camera that we know of today is

designed like human eyes.

How shutter speed is measured

Shutter speeds are typically measured in fractions of a second, when they are under a second. For

example 1/4 means a quarter of a second, while 1/250 means one two-hundred-and-fiftieth of a

second or four milliseconds.

How does a film camera work?

A motion-picture camera essentially consists of a body, a filmtransport system, lenses, shutter, and a viewing-focusing system. ... A

mechanical claw pulls the film into position behind the shutter, locking

the film momentarily in place. The shutter opens, exposes an image onto

the film, and closes.