

## EVERYTHING RELATED TO CAMERAS

### Types of cameras

#### Compact Digital Cameras

- Slower shutter release speeds
- Fully automatic photography
- No lens change
- compact in size



#### Advanced Digital Cameras

- Many different sizes and shapes
- Good quality zoom lenses
- Can be manually controlled
- No lense change



## SLR & DSLR (Digital Single Lens Reflex)

- Lenses can be changed
- Fully manual operation (thus more control over taking shots)



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## Types of Lens

### Standard/Normal Lens

- Fixed focal length (50, 85 and 100 mm)
- Best for general use and portraits.



### Wide Angle Lens

- Shorter focal length (10 to 42mm)
- Best for outdoor landscapes, interiors and group portraits





## Telephoto Lens

- Focal length (100 to 800 mm)
- Best for wildlife, portrait, sports and documentaries.





## Zoom Lens - variable focal lengths



## Fish-eye Lens

- Focal lengths (7 to 16mm; i.e wide angle)
- Provides extremely wide images by changing straight lines into curves.
- It some times produces circular, convex or oval images.





## Macro Lens

- Focal lengths (50 to 200mm)
- Used to take larger images of butterflies, bees and flowers







## Tilt-Shift Lens

- Used for shooting buildings and to alter the perspective of an image.
- It also helps you to focus selectively on an image.



## Image-Stabilization Lens

- Used for correcting camera shakes when shooting objects with longer focal lengths, slower shutter speeds or in low light conditions.



Image Stabilizer ON



Image Stabilizer OFF

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## Basic Photography terms

### Exposure

Usually the word "Exposure" is used to refer the recorded image on film (or digital media). A correct exposure means proper "Aperture" and "Shutter speed" and "ISO". Natural light act as better dependent for exposure.

### Aperture

It determines how much light the lens transmits to the image sensor. A lens with a larger maximum aperture is called a "fast lens". This type of lens lets more light, focus faster and are sharper. A lens with a small maximum aperture is called "Slow lens". They are less sharp, focus slowly.

### Shutter Speed (exposure time)

The length of time a camera's shutter is open when taking a photo. Slower shutter speeds are often selected to suggest movement in a still photograph of a moving subject. The moving objects will appear unclear and blur, while the remaining portion appears neat. Also used for taking images in darker light conditions (exposures) so as to take clear pictures by allowing more light.





### **Fast shutter speeds**

Moving images appear unnaturally frozen. Means you can capture even minute details of moving objects like the one shown below.

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## **Panning**

Panning is a technique where the moving object has been followed (camera moving) so as to capture clearly the moving object with a blurred background (usually in shutter mode) as shown below.



## The Focal Length

(expressed in millimeters)

Wide-angle lenses have small focal length (10 or 20 mm), the smaller the number the wider the lens. Shorter focal length lenses (say 10 or 20 mm) provide a wider field of view, but provide less magnification. Longer focal lengths (say 200 or 300 mm) provide a shorter field of view, but offer greater magnification. If you want to take a bird really far away, you need to choose a lens of focal length say 300 mm (longer focal lengths).





## ISO

Under ISO, "Film Speed" ratings is the key standard used in most of the photography.

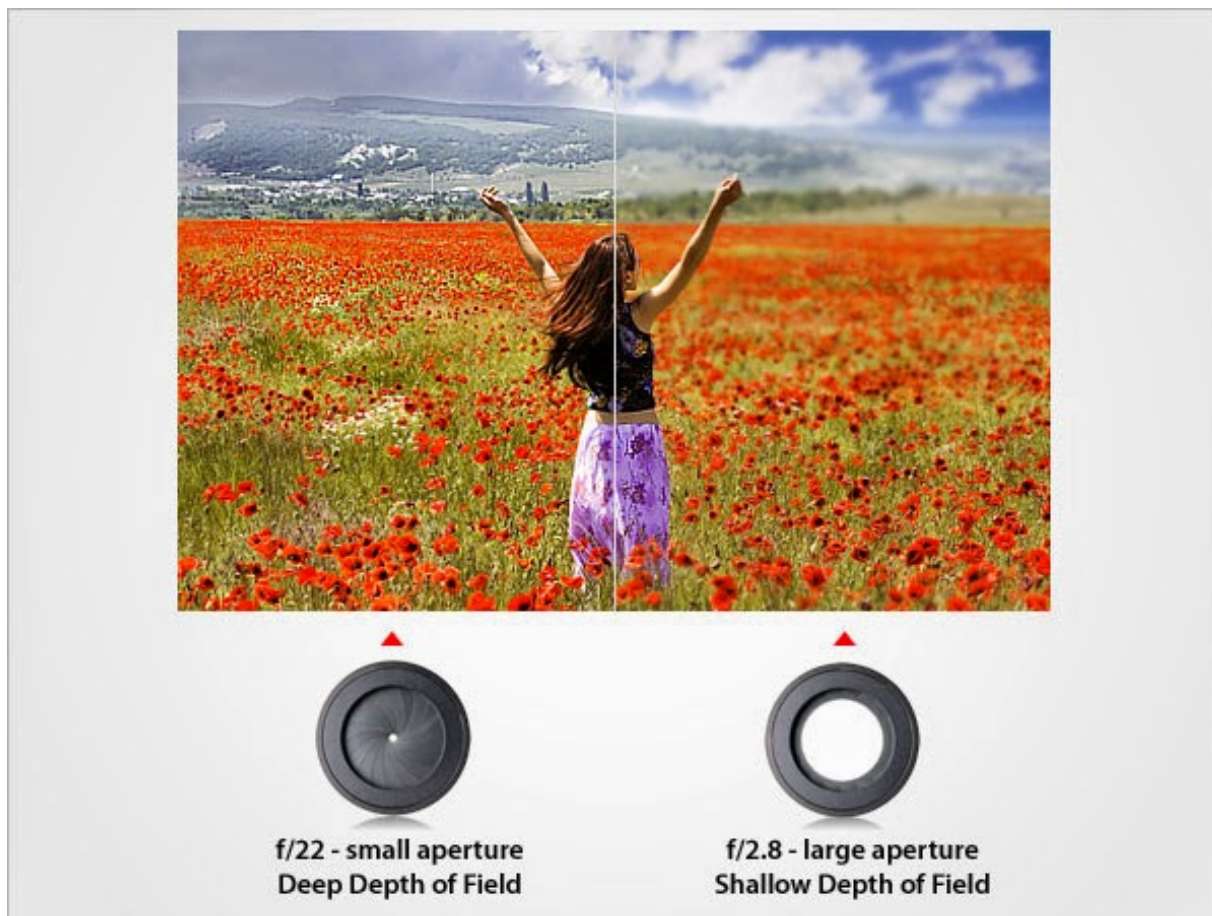
## Depth of Field

Depth of field (DOF) is the distance between the nearest and farthest objects in a scene that appears acceptably sharp in an image. DOF increases with f-number, for example a picture taken with a low f-number will tend to have subjects at one distance in focus, with the rest of the image (nearer and farther elements) out of the focus.

DOF can be described in two ways. Shallow and Deep DOF. Shallow is when the included focus range is very narrow. Deep is when the included range is large. f-stops work an inverse values, such that a small f/number (say f/2.8) corresponds to a larger or wider aperture value, which results

in a shallow depth of field. A large f/number (say f/16) results in a smaller or narrower aperture size and therefore a deeper depth of field.

The following two pictures will clear the concept.





## Some useful terms

### Rephotography:

Is the act of repeat photography of the same site, with a time lag between the two images, a "then and now" view of a particular area.

### Aerial Photography:

Taking of photographs of the ground from an elevated position is usually called as "Aerial photography".

### Cinematography:

It is the art or science of motion picture and movie photography.

### **35mm film:**

It is the film gauge most commonly used for chemical still photography and motion pictures. Film gauge is a physical property of photographic or motion film stock which defines its width. The major film gauges in usage are 8mm, 16mm, 35mm and 65/70mm.

The term "135 film" was introduced by Kodak as a designation for the cassette for 35mm film, specifically for still photography. Other film formats 110, 120, 126, 828 and APS. The 135 film frame size has been



adopted by many high-end DSLR cameras, referred as "Full-frame digital SLRs".

### **Image File formats**

- 1 JPEG - Joint Photographic Expert Group
- 2 TIFF - Tagged Image File Format
- 3 RAW

### **Online resources**

- 1 Guidelines on lightening for photography - [here](#)
  - 2 More about old age film sizes - [here](#)
- More about camera lens - [here](#)

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