



Unit - 6 Theatre Production and Production Designs

Theatre is not just a medium to express the thoughts and philosophy but it is more than that. It is a vast subject. Theatre includes music, dance, human psychology human anatomy, architecture, designing and physics also. The unit discusses some theatre elements namely audience, space and time. Space is the most essential element for theatre because that is the place where the audience and performers interact, because it is the place where the process of action creation takes place. You may have seen the large sets in films.



An elaborate set Stage

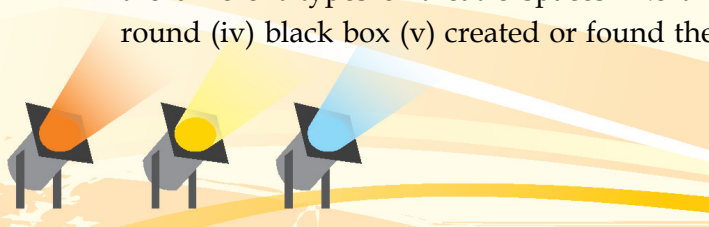
Learning Objectives: The learner would be able to:

- Understand the importance of extra paraphernalia which created by the designer.
- Elaborate on the importance of set design.
- Understand the functions of set designing.
- Understand the importance of different design type of sets.
- Gain knowledge on the elements of set designs.
- Understand the various steps involved in set designing.
- Understand the importance of costume designer.
- Understand the process involved in costume designing.
- Gain knowledge about the history behind stage lights.
- Understand the various uses of lighting techniques.
- Understand the various elements involved in lighting the stage.

A Theatre Set

Theatre space is the area which is occupied by the audience and the actor during the course of a performance and which is characterized by the theatre and the relationship fostered between the two.

It is a place to hear as well as watch. The word 'audience' comes from Latin and it means those 'who hear and see'. Often these places for performing and hearing are referred to as 'the audience up there' and the 'actors down there' occasionally, the places are merged, with actors mingling with and sometimes interacting with the watchers and listeners. The elements of theatre structure consist of (i) on stage (ii) off stage and (iii) auditorium. We also know about the different types of theatre spaces like the (i) proscenium (ii) thrust theatre (iii) theatre in round (iv) black box (v) created or found theatre. We can use all these spaces for our need by



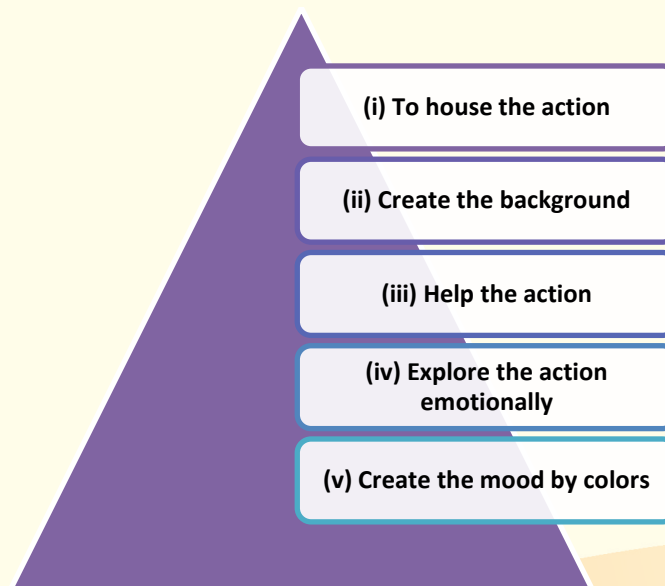


organizing them to create something new using the imagination. We call this set design which makes productions come alive. The playwright knits the story through the characters by creating a play. In the play, there are many actions happening at the different places or we can say, in theatrical language at '*locales*' so to create the same atmosphere at the place there is a need of a designer.



What is a Set?

It is the extra paraphernalia which give the space background environment to enact the play. The set design is an important aspect of a play production because it gives the first impression about the play, after the light is flashed. It creates the environment for the action, so that the external paraphernalia which physically cover the action of the play, is called a set. The objectives of a set are:





Designing of a Set: Designing a set depends on intuition, description and observation of the designers. A set creates an illusion of outer world scenic environment to house the action.



A stage performance

The set gives the first impression to the audience about the plays so the scenic design is a very important element of play production. Sets create an anxiety in the audience about what is going to happen. So, it is the responsibility of a set designer who he/she uses his/her imagination to create the atmosphere of the play. It is important to understand the qualities of a good designer because he/she has to create that set, keeping the aesthetics in mind to create a scenic impression. They should possess:

- (i) Vision and imagination
- (ii) Creativity and skills

The set designer must have knowledge about the playwright, work of the director and actors. Working as a creative artist, the set designer, should be talented and must having the knowledge of line, color and form. He/she must be able to make new interpretation and use visual imagination. A designer as a creator should be able to create or use unique material and theatrical techniques.

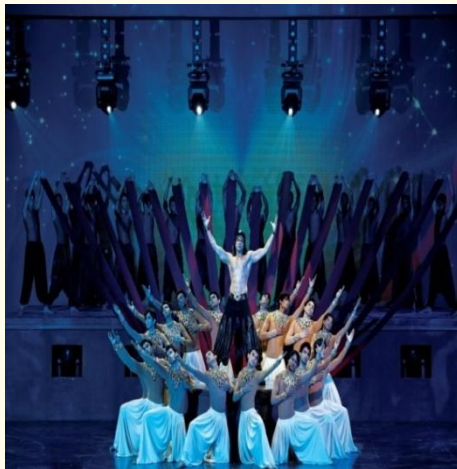
Functions of Set Designing





The scene designer brings to the production is the visual expression of the playwright's aim. The scene design, like other kinds of creative design, is the creating of a form to fulfill a purpose or function. It is the combined dramatic effect of visual and main interpretation. We can know more about set designing by knowing the form of a play because the form shows the way to know what is the relationship between the visual scenery and the action of the play, with the mood and the story of a play. It is a challenge to a set designer to create the different locales or a single place, because a script has many places in it where the events of the play happen.

1. **Action:** Scenic design gives a visual expression to the playwright's aim. For this, it is necessary that first, the designer examines the action of play and the characters who are involved in it.



Scenic designs complement the stage performance

The action of the play is the force which keeps the momentum of the play and presents it alive. Domestic action is the combination of physical action, visual movement, dialogue and characterization. Characterization creates sympathy and elimination. Through dramatic action, characters present conflict. We combine all the elements of visual impact that scene design create. On the basis of structure, plot, description treatment and interpretation, the designer creates a set.

2. **Reinforcing the Theme:** A play in a written form is just a text but when a group performs the play, it is a live thing. When a designer creates a set for the play then the designer takes the audience to the set place where the dramatic action was takes place. In this manner, a set reinforces the theme of a play, the set and its elements become a part of the action of the play, which is visible along with the minute skillful use of theatrical, musical techniques as seen in farce and musical comedy.
3. **Time and Place:** Dramatic action takes place at a specific time and place which are created by the writer to establish the environment for the dramatic action. A place impresses the audience. A specific time takes the audience into a historical past mentally in the absence of that time and place. Time and space are bound to the total environment for establishing the mood.





In real life, people cannot react repeatedly in a same manner to a situation. They have different ways to express themselves. This is called 'mood'. Sometimes happiness, sometimes sadness and sometimes none. The set design establishes the mood by color, texture, line and shape.

5. **Characterization:** Establishing and portraying of characters, is to have a special relationship with the scenic environment, who are participating in the action or reaction, in favor or against their surroundings. When a setting is the character's reading room, who is staying in the house, all these elements give the basic inspiration to the set designer. In this way, the main object of set designing is to create the space where the characters do the dramatic action in a completely perfect environment. The playwright creates a play by using his/her imagination through a particular instance or story. About this, the playwright has his/her own interpretation. A director chooses a play for a production and for that he has his interpretation.

Elements of Set Design: When one sees any work of art or design, one sees and appreciates the beauty and harmony that it brings to one's visual sense. The wholesome picture is built with small elements that are like the ingredients of a well cooked dish. It is important to understand that the dish started with an empty pan in which gradually, all ingredients were put and cooked. Any work of art or design begins with a bare, clean canvas on which an artist gradually creates shapes, structures or pictures by combining or manipulating elements at his/her disposal. The elements of art can be deconstructed to four basics:

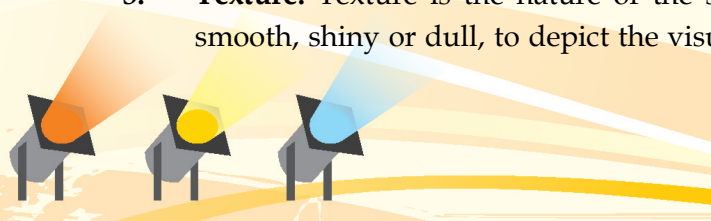
1. **Line:** From straight, horizontal and vertical lines to diagonal, curved and crooked lines, the basic sketch or drawing of any picture is formed by these lines. A line can be defined as a combination of several points, one after another in succession in a given space. It can be used to depict two and three dimensional shapes. These shapes create forms that are part of any picture.
2. **Colour:** Colour is an important element and helps us in identifying various objects and landscapes depicted in a painting. In case of abstract painting, colour can become a defining element, to evoke mood and visual impact. Colour in turn has three properties that define it:

Hue: The colour often defining it in terms of intensity.

Value: The lightness and the darkness of a colour. The value of a colour will change with the addition of Black or white.

Intensity: The brightness and the purity of a colour. A faint or dull colour will have low intensity and a bright or strong colour will have high intensity.

3. **Texture:** Texture is the nature of the surface of any shape or form. It can be rough or smooth, shiny or dull, to depict the visual quality. It is an element of art that defines how





an object or surface looks, creating a feeling, as if that object is being touched or felt. The best way to understand this is to run your palm or fingers over any carpet, mobile phone, table etc. and feel the difference in their textures.

4. **Shape:** Lines, thick or thin, round or curved come together to define a shape. It is the element of art that defines the height and width, they can be flat or three dimensional, flat etc. Colour and texture provide further detail to that shape. An added element to this can be 'form' which encloses volume as in a sculpture piece or defines height, width and depth as in a cylinder, cube, cone etc. Form can be free flowing in the abstract art. Like the small segments or building blocks which are used to make shapes, any work of art or design, when deconstructed, will reveal these above mentioned elements. These elements are like Atoms and molecules that combine in endless combinations to create designs and patterns. These patterns and designs become more complex with the addition of colour and texture to shapes and lines.

These four elements are manipulated and mixed as the concepts and visualization and then created as works of art. There are at least two elements in a work of art out of the four.

In sculpture, which is a three dimensional form, shape and texture and space becomes important. Space is another allied element which is an add-on part of the basic four elements. With thin and thick lines, by shading any shape, you can create some depth in that picture and bring in perspective to create an illusion of 3- dimensional quality on a 2-dimensional surface.

Besides these elements, some principles that are important in appreciation and practice of art are:

1. **Balance:** It is important to use elements like line, colour, texture and shape in a combination that creates a sense of equilibrium between them. This visual element can be felt when a work of art creates a sense of stability and provides harmony to the viewer. It can be symmetrical or asymmetrical. Harmony is achieved through use of repetitions and subtle gradual changes within these elements of art in various ways.
2. **Proportion:** It is an important principle of design that refers to the relationship of various elements to the whole pattern or design and to each other in a given space. The proportion of each element with the other defines the sense of balance and harmony in a work of art.
3. **Rhythm:** This musical term is also important in visual arts because it defines a visual movement of elements created by repeated or intermittent use. It creates a visual tempo and takes your attention from one section to another with a harmonious swing. This movement is also used as principle of design to create a feeling of action that guides the viewer and his eyes through a work of art. Variety of shapes and colours, a sense of unity





in the placement of elements, emphasis on a particular element, contrast and gradation are some other principles that are manipulated by artists to create new works of art every day.

A designer designs a set using his/her imagination and innovation based on form, style interpretation theatre space and theme of the play. In theatre of Shankar Shesh there are so many conflicts amongst different characters. In the play, there is a locale of graveyard so all the characters sit and talk at different levels. The designer create a set using the middle cut bamboos in different pieces and uses them in different line shapes by crossing each other at the end of different levels. Designer concept means giving different elevations to the levels. All this exercise shows the conflict in symbolic suggestions.

On the basis of these points, a designer can design different types of sets.

1. **Realistic Set:** In this type of set, audience sees the actual space of action they are facing. Designer creates a type of set which gives the actual locale but designer must know this that it should be under the norms of aesthetics because one cannot show all the objects as they are in the nature. There are some limitations of the theatre. In this type, a designer uses the imagination and puts the objects from nature and alters them to be used for the required set.
2. **Naturalistic Set:** A naturalistic set designer cannot use symbols or take liberties to alter natural objects for his/her use. In naturalistic set whatever is seen in nature, is seen on the stage.
3. **Expressionistic Set:** There is no relationship between the expressionistic set and the objects of the environment. It is the mental expression of the main thought of folk theatre or the expression of a character's feeling. This kind of setting expresses emotions or thoughts.
4. **Symbolic Set:** A designer uses the different types of symbols to communicate the message, interpretation and feeling of the play. In this design he/she uses innovative ideas to show the objects of nature by symbols. He/she cannot depict the natural objects. There is no relationship between the symbolism with the actual objects. The designer ensures the success of the play by the use of symbols in the set design.

Set design: As the curtain opens/rises or lights flash in a play, what the audience sees is part of a set design. The scenery, furniture and props on the stage make up the set design. Design can generally be described as an arrangement of elements in a given space. These elements can have lines, colour, textures and shapes. The given space for a play or drama is the stage on which it is to be performed and the walls, furniture, properties and actors become elements. At times, one is forced to take decisions on design, keeping in mind the stage. It is like the size of the canvas of a painting. Certain subjects in themselves demand a bigger canvas. So do some plays. A designer and director would keep this in mind while designing the set of a play.





A set with stage lighting

Set Designer: The set designer's job is to design these physical surroundings to facilitate the action of that play. A good set design will have enough information for the audience to know the concept and approach of the director to that play.

Like a good outfit or clothing, a set has to be functional as well as beautiful. The set is created for the play and needs to help in the movements of actors and overall action as envisaged by the director. It has to enhance the vision of the director by offering creative solutions to blocking or grouping of actors in each scene. Not only the set has to help the movement but it also needs to provide a unconstructive flow of action during the performance. Overall, the set design would set the style and tone of each play as different from any other play.

A good set gives clues, to the time and place of the action of the play. Whether the play is set in any particular historical period or contemporary times will be reflected in the design and décor of the set. The furniture pieces, properties, wall decorations etc. on stage will be selected with an intention of giving the audience sufficient detail to understand the time and place and help the action in the play.

The set will also create the right kind of atmosphere and mood for the play to be received well by the audience. With intelligent use of lines, colours, textures and shapes a designer would create this mood keeping in mind the requirement of the play. Design of the lights too plays an important role in this aspect.





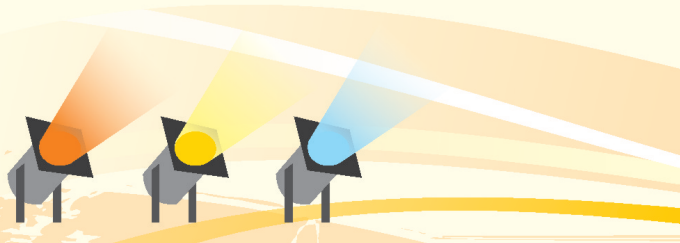
The set may also need to be designed so the backstage areas used by the actors and stage crew are kept out of sight from the audience. This will depend on the effect the director wants to create with the staging and on the type of stage the production uses.

Scenery in a set design maybe the walls, floor arrangement, levels or any kind of backdrop. Stage properties or stage props, are furniture, draperies, decorations that complete the set. They are also conceived with the set design and need to be part of set design.

The text of each play has certain basic requirements of locations, stage properties and costumes that would be needed for the staging of that play. This becomes the basis of designing the set required for any play.

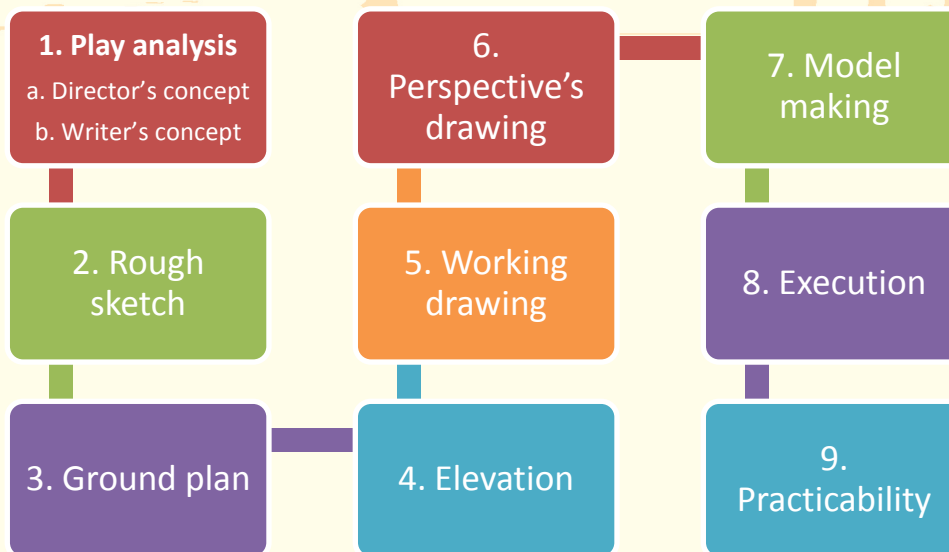
The first step in designing of a play would be to know the requirements of that play. At times the playwright gives a basic description of the set as needed in the play. That is the part of his visualization while he wrote the play. It is not binding or necessary for directors or designers to follow instructions. At times it may not be feasible to follow them due to change in the dimensions of the given stage on which a play is going to be performed. So, irrespective of the given instructions, the designer needs to do a detailed analysis of the play and arrive at his/her own interpretation.

The set designer reads the script several times to find out details and get familiar with the text. He will also make his notes on the basis of his/her impression about the play. He would visualize certain scenes, make some sketches and find a suitable style for the play. But a breakdown will be absolutely necessary to put all the requirements in a table or chart to remember without going back to the script all the time. We do a script breakdown to put our requirements for each scene in order. The breakdown is done afterwards, when the designer is familiar with the play. This breakdown gives him/her information of time, place and action of each scene in a nut shell. This also gives him/her the number of characters in each scene. Detailed requirements of each scene are put in this breakdown, including all special properties, costumes etc. This break down becomes the base for the execution of that play. It will put in a list its specific requirements of scenery, furniture and stage props. The time of the day in the action, placement of scene or location, season such as winter, summer etc., historical period and any set changes called for several scenes in the script are noted. The set designer's intention should be to find out, in detail, all the requirements that may be needed based on the story, dialogue and scene changes in the script. Stage directions given by the playwright are important and should be looked used as additional help, since the playwright is the first to visualize this scene. But the danger in following what the playwright has written as stage direction is that, he/she may have written it with a different stage in mind and the designer doing for another kind of stage play. The designer may also want to change the style of design, keeping in mind the changing trends.





Steps of Set Designing



Planning and Execution: The set designer will collaborate with the writer (if available), director and the other design teams of costume, lighting and sound design. This is important to bring everyone on the same level as the director who would be the creative team leader in the process. The director's interpretation of the play will be the guiding factor for each of these designers. He/she would also discuss the details of the set with director and the team. In the absence of a production designer, as in the western countries, the set, costume and lighting designers work together to ensure the creation of an organic look and feel for the play presentation. An open interaction between the team at the initial stage helps in understanding each other. It also clarifies what each of them thinks about the play and what are the areas where they can come together to enhance the overall quality of the presentation of their play. Theatre being a team effort, requires this collaborative approach to bring out the best in each other.

Each designer will have his/her own method of working. The most essential part of the process is the layout of the stage on which a set is being built. The stage will have a fixed dimension and the skill of the designer is to provide the play with a functional set on that particular stage within its given parameters. On the basis of his breakdown, the set designer knows what is the most used location in the play and that needs to be given primary placement most of the time around the centre of the stage. Then the second most important location and so on and so forth there is no fixed method for this process. Still, this understanding of requirements and needs of the play would be the basis of his/her decision making. This would give him/her clues to sort out his ground plan. The set designer will do a basic ground plan of his/her set on that of the dimensions of the stage and show the walls, stage props, placement of each furniture piece and its sizes etc. A few sketches would be done to visualize the set and put this idea of his ground plan on paper for the team to see. Once the Director and other chief members of the team agree, this design would be finalized. The set designer will now do a detailed floor plan, front, side





and stretched elevations to show details of windows, platforms and doors for his set execution team to follow. He/she will also if required, do a miniature three-dimensional model of the set to show how it will look on stage.

Every play, even if it is done on a bare stage, will have some props, furniture etc. and that would constitute the set design. Like a painting on a canvas, a set can be highly realistic or abstract, or influenced by some new style. It is the designer who is most of the time creating a visual language of the play. The most important thing for a designer to keep in mind is that his set design should be subservient to the play. It is after all done to make the play, its story and scenes come across in full intensity.

Costume Designer: The costume designer is responsible for putting clothes on each character of a play in a play production. Like the set designer, a costume designer helps in visualizing a written text of a play and providing suitable attire to actors that transforms them into the characters they are playing on stage. Unlike a fashion designer, the costume designer of a play deals with specific characters and brings each character to realization onstage.

The basis of costume designing for any play is its subject, period, place, class, caste and community. These details and interpretation of the director gives a play its visual character. The audience understands the occupation of a character, social status, gender, age, its attitude to style of clothing etc. through costumes before that character speaks. The creativity of a costume designer is reflected in his/her choice of colours, shapes, textures for each character and that makes an immediate impact on the audience. The costume designer's colour choices reflect personality, mood or state of mind of a character. The journey of each character within the play can be visually emphasized by progression of a character's costumes throughout a show.

Costume Design should be consistent with overall approach and reinforce the mood and style of the play production. The costume design helps in establishing the changes in a character, its development and the process of transformation within the play. It will indicate relationships between characters, and help in changing the appearance of an actor for a role in a play. It should also help him/her to feel the character, making it possible for him to get under the skin of that role. Besides all this, costumes have to be aesthetically pleasing, functional and comfortable for an actor to perform during the play. This also needs a collaborative effort of the director, set designer and make up person with the costume designer.



Period Costumes

Process: Like the set designer, a costume designer also needs to read a play several times to get familiar with the story, characters and scenes. This gives the designer an idea about theme, period, place, class etc. Then like the set designer, a costume designer will make his/her own





breakdown, putting all requirements and details like number of scenes, characters in each scene required to be costumed (major and minor ones/speaking and non-speaking, number of crowd etc.). It also indicates number of changes required by a character and time given in between those scenes to make changes during the running show.

The setting of the story in a particular period and a historical subject may require research by the designer about fashion and trends of that period. The designer would look into historical details such as archaeological evidences, artifacts, literary sources, pictorial references and documentary accounts to arrive at a definite look for that period.

As a beginning to the collaborative process, a designer would come prepared with some rough sketches or initial ideas to discuss the look of the characters. He/she will have his references ready for the director and other members of the team to see. This is also an appropriate time to check with the director on the exact number of extra characters needing costumes that the director plans to include besides the ones mentioned in the script of the play.

Team: When the team approves initial plans, the costume designer will finalise his sketches and designs. They are called costume plates. The costume plates are presented in colours of each piece of attire and show style of each costume. Textures and unique features of each costume are also depicted in these sketches. At times, designers put small cuttings of the actual cloth they want to use with these plates. Accessories like spectacles, caps jewelry etc. are also shown. Another breakdown in addition to the Costume Breakdown can also be made for each character. This character costume Breakdown gives details about the number of changes for each character, their accessories like jewelry, caps, Footwear, Spectacles, Sticks etc. including any special requirement. The subtle details of these accessories depict individual differences of each character and reinforce the elements of socio-economic class, period, culture, religion and region etc. They become elements through which a designer constructs his/her characters. Working closely with set and light designers, the costume designer ensures a harmony of costume colours, textures and other costume elements with set backdrops and lighting patterns.



Costumes enhance performance

The costume designer, most of the time is responsible for the execution of his designs. He/she has a team consisting of costume supervisor, costume fabricator, master cutter and tailors etc. He/she will be supported by a wardrobe in-charge and a team responsible for actual costume upkeep and handling during the shows.

The costume supervisor is responsible for supervising the making of costumes of a play. He/she can be from the team of the play production or an assistant of the costume designer to oversee this execution aspect. Like the designer, he will be familiar with the play and its details





of requirements. A non-creative and demanding job, it requires meticulous commitment by the supervisor to get costumes made within the given time and budget, working closely with the fabricating team.

The **costume fabricator** is normally an experienced individual or agency having vast experience of making of costumes with extensive knowledge of fabrics and costume styles. He or she is responsible for setting up of the team required for making of the costumes. From acquisition of the material of costume to hiring numbers of master cutters, tailors etc. are taken care of by him/her.

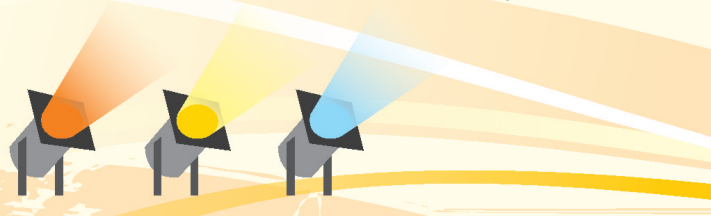
The **master-cutter** is a tailor, who is proficient in all kinds of cut and designs of clothing. This job is critical because the cuts define the shape and styling of each costume. The master cutter would interact with the designer and understand various designs to be made. The master cutter would then give these cut fabrics to tailors for stitching. Costumes would be tried on by actors before finalizing them. Till then, the fabricator is responsible for making of costumes according to the given designs and has to satisfy the costume designer and the supervisor before handing them over to the wardrobe in-charge.

The **wardrobe in-charge** is a person from the production team of the play. He/She is responsible for the costumes in rehearsals and shows. Keeping them ready for each show, it is the job of the wardrobe supervisor to get the costumes ready by washing, ironing and repairs if needed for shows, continuously ensures smooth running of the shows.

A **costume designer** must bring to his/her work a profound understanding of history, time, and place. This knowledge combined with imagination can create designs that can be satisfyingly functional and accurately historical. Costumes may also be required to depict fantasy and futuristic costumes for a play. Those costumes can be creations of pure fantasy and imagination, but the basis would remain in the script of that play and this element of serving the script remains primary in the creation of good costumes for a play.

Irwin experimented with lights dividing lights into section so as to illuminate various areas on stage separately introducing sectionalized strip light from above, adding colors to light to symbolize different innovations, blackening the auditorium during performances and many more such path breaking methods. His experiments followed the path leading to art.

Lighting: As it is known, drama is an audio-visual media. The audience can listen to and view what is taking place on the stage. The music, dialogues, thoughts, story and many more art forms can be listened to, but when discussing a drama being reviewed, one cannot think of it without illumination or appropriate lighting because without lights, none of the proceedings can be seen. That is why, stage lighting cannot be segregated from theatrical designing. The whole performance of the play is visible due to stage lighting.





Recon cement was the period when people preferred candles to open fires and torches. In this way candles began being used as a source of light in night stage performances wherever they occurred. Most probably as the first step towards the stage light evolution. Following these oil-wick lanterns along with candles began to be used. The oil-wick lanterns required to be trimmed regularly, which required the snuff-boy going on stage during the performance. The term 'foot light' is said to have been derived from these floating oil lamps.

History of Stage Lights: Without dispute, it is accepted that light illumination is mandatory for theatrical performances. Lighting does not mean merely making the stage visible, but in fact, it means using light to enhance the spectacle unfolding on stage. In 1600A.D. theatrical performances were held during daytime.

In the second half of the 19th century the development of science and technology grew and so did the interest in light devices grow proportionately. The question was how can electric lights be used in the theatre? In 1879, the electric light was invented it overlapped with gas lights, as far as its use in theatre was concerned. It was the time when, improvements in stage lighting were being thought about Adolfe Appia (1862-1928) of Switzerland, is also considered to be the father of stage lighting and Gordan Craig, from England, performed revolutionary experiments in the field of stage lighting, infusing it with artistic elements.



Joseph Furten Back (1591-1667) an architect and designer, made an addition of keeping the candles in vertical rows. When performances were held in halls illumination became necessary. This led to an over usage of lamps and candles, the glare of which hurt the eyes of the audience. An Italian designer, Nichola Serbltian (1574-1654) incented a process whereby the source of light was concealed in a cylindrical tube. David Garrick(1717-1779), a famous actor designer, used the spot light by placing it lower than floor level, in a groove. Stopping up towards the stage and step towards the auditorium. He also concealed or masked many of the lights used on stage.

Appia tried to retrieve the 3-dimensional quality of objects lit by 'pouring in' adequate light rays from different angles and directions. He went to such an extend so as to throw out all 2-dimensional components of a scene like the painted curtains at the back and sides. He formalized the background and area adjacent to the acting area by placing 3-dimensional objects like blocks, levels and steps. His controlled blending of light was symphonic in character and because of his own musical background he achieved his purpose. His scene designing over emphasized horizontally yet he could create a balanced variety in light and shade for the first





time. Craig created a blend of light and shade by the use of vertical curtains so that the feel was one of smooth curves. Craig and Appia used colors meaning fully and artistically to make it more aesthetic. In 1879 when Epton, wrote Dolls House incidentally Edison invented the Incandescent lamp, which established itself all over the world.

In the 20th Century this lamp was used generally and not only as a spot light prior to world war this light did not contain a strong filament and after the war turn on light emerged as a strong competitor. Even though these lights were safe with the additional advantage of possessing the ability to be operated with varying intensity bright or dim. Around the same time are spot light also come into existence in addition, the reflector light was invented, by Migo Jones, around this time . Furthermore, the foot light was invented by Joseph Furnback. A lot of experiments and new techniques were tried out during 1900 to 1914. As a result the spot light with beam control, was invented. It went on to become an important component of 'stage light'. Balasce invented the "Baley spot light". Around this time itself Balasco experimented with naturalistic approach and opened up some newer approaches to stage lighting, especially, it reproduction. A good e .g. of this can be seen in "Madun Butterfly" where the actors are motionless, during the tradition from a Japanese sunset to sunrise, while light and sound dominate the action on stage (despite the far reaching contributions of Belasco, to stage light techniques, his work was over shadowed by that of Adolf Appia). Balasco though ahead of his time, is the one who spoke about 'potential contribution', he was the first to draw attention towards 'border light' and 'foot light'. He stated that they were diffused and uninteresting but artistic stage lighting can be achieved through specific stage illumination. This led to the inventions of aspect of control equipment as the aspect of controlling the light was imperative. As a furtlerave to this we saw the invention and use of salt water demine, auto transformer (after 1930), Davis demines (after II World War). SCR, Thyestes's Demines. The Thyestes Demines has established its place as the most preferred one. In recent times such an enormous range of lighting and control devices are available that one has to only select and manipulate correctly for complete artistry achievement in stage lighting.

Source of Light: As it is well known there are two main sources of light-natural (Sunlight) and artificial light.

Arrangement: There are two techniques to arrange the light that is used to illuminate the stage.

Shadow Producing Light: The first is form reveling light, or shadow producing because when we cast light on an object its shadow is created on stage this is called specific illumination in theatrical technique it is called 'Key Light'.

Shadowless Light: This is also known as general illumination. This technique is used to light up those positions of an object that have been shaded due to 'key light'. This illuminates the object completely as no shadows are produced. It is also called 'fill in light'.

Properties of Light: Light is electromagnetic radiation (radiant) that has properties of waves. The electromagnetic spectrum can be divided into several bands based on the wavelength. Visible light represents a narrow group of wavelength between about 380nm (nanometer) and 730nm.





Our eyes interpret these wavelengths as different colours. If only a single wavelength or limited range of wavelength is present and other than our eye, they are interpreted as a certain colour. If a single wavelength is present we say that we have mono chromatic light.

Absorption: The periphery or the surface of the object may absorb all the rays of light falling on the object so that we see it as black and matte. In other cases of the light rays, constituted of seven colors, are partly absorbed by the surface and the remaining ones are bounced back. Naturally the eye catches those that strike the eye.

Reflection: Reflection is when light bounces off an object. If the surface is smooth and shiny, like glass, water or polished metal, the light will reflect at the same angle as it hits the surface. This is called specular reflection.

Diffusion reflection is when light hits an object and reflects in lots of different directions. This happens when the surface is rough. Most of the things we can see are because light from a surface reflects off it.

Mixed reflection is a mixture of diffuse and specular reflections. E.g.:- a doorknob, shiny wood etc.

Reflectors: Optical devices which are used to reflect light are called reflectors.

- (1) Spherical reflectors: Spherical reflectors reflect all beams which strike the reflector from or through the centre of curvature back through the centre of curvature. The focal point is at $\frac{1}{2}$ the radius of the sphere.
- (2) Parabolic reflectors: Parabolic reflectors reflect all beams which strike the reflector from or through the focal point out parallel to each other in a beam of light approximately the diameter of the reflector. Examples: - Search lights, torches etc.

Dispersion: The process of splitting of white light into its constituent colors is called dispersion. The dispersion is possible by prism or grating.

Prism: The inverse square law: The inverse square law states that the intensity of light strikes the target at a right angle, varies inversely according to the square of the distance from source.

Electric Circuit: Electric current flows in a closed path called an electric circuit. This electric circuit includes components like resistor, capacitors etc.

Single phase electric circuit: Single phase electric circuit refers to the distribution of alternating current electric power in which all the voltages of supply vary in phase. Single phase distribution is used when loads are mostly lighting and heating with few large electric motors.

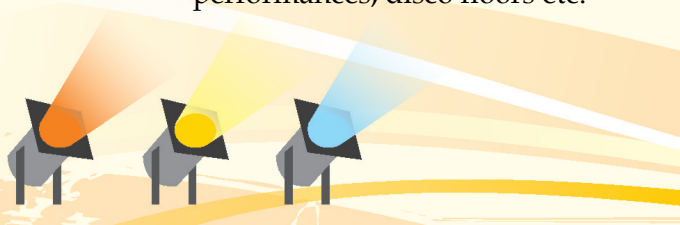
Multiphase electric circuits: In multiphase system, circuit conductors carrying multi alternating currents (of the same frequency) which reach their instantaneous peak values at one by one of all circuits of a cycle from each other. Taking one current as reference, the all other currents are delayed in time.





Types of Light

- (i) **Optical Effect Projector:** whenever we see the effects of clouds, rain these artificial natural effect can be projected with this projector. These imaginary looking real effects are projected by a highly powerful projection lamp with two sets of Plano convex lenses called condensing and objective lenses.
- (ii) **Ripple/rain/fire effects:** Such type of effect is seen in a cylinder of diameter 150 mm and 250-400 mm wide which is made of thin iron sheet having cuts accordingly and it is placed in front of a source of light such creates various effects accordingly it is been designed and shaped it has been cut and spinning it with low speed. Irrespective the fact, that if these are cut irregular, horizontally for about 50 mm long and 7 mm wide it produces ripple effect, and with having small holes of 3 mm diameter all around the drum creates the effect of rain drops and cuts of vertical eye shapes produces the fire effect.
- (iii) **Strobe light:** When we dance, the effect of dance is produced in series of rhythmic cut sections of movements such happens due to this light which creates very eye-catching images but the long duration of this image affects eyes of the spectators as well as the performers. It has provided a knob which can be adjusted as required. In this way it has 3 models:-'U' shape tube, single tube and double tube.
- (iv) **Mirror ball:** Whenever a hollow sphere with a small mirror piece and mounted with a low speed motor which is fixed in the stage of a fiber glass it represent a mirror ball and as it rotates, two or more spots having a narrow beam strike it from various directions. Sparks of flashes spread all around and by using different colors from various spots a game of colored flashes can be obtained which is available in 12 inches diameter size.
- (v) **Ultraviolet lamps tubes:** what happen when some lamps are coated with fluorescent powder? This coating activates ultraviolet radiations commonly called a 'Black Lamp'.
- (vi) **Bubble machine:** When a machine creates foam out of the stored liquid inside the reservoir having a rotating motor which throws the liquid towards a rotating aluminum disc which turns them into bubbles. These bubbles are created by this machine and its effect is used for stage performances, disco floors etc.





(vii) **Flood Light:** most common stage light is flood light. A flood light having an ordinary lamp with higher wattage, a reflector and a socket mounted in a small metal enclosure (box) with provision to hold a colour frame in the front. It can pan from right to left or left to right and tilted up and down. There is no provision of controlling the light that spreads from this. Flood light can be used for background lighting, cyclorama blending of acting area and as a general working light. For stage use flood lights available in 150-200,300-500,1000watt lamp sizes and in halogen 500to 1000 watt. Halogen hoods are more suitable for cyclorama lighting.

➔ **Dimmers:** When the light is generated by heating a filament the generated light is dependent on the temperature of the filament namely the heating of it can be controlled and regulated by a device called Dimmer which regulates the supply of energy to a lamp.

Light Design:

Elements: With the help of filter circuits, the steady value of the DC current can be achieved.

Objectives of Lighting: When applied in a controlled manner light helps to establish visibility, highlight selected areas create the required environment and create three dimension aspect of actors and objects.

- (A) **Illumination:** Theatre being an audio-visual art has, one of the primary objects of stage light i.e. to provide sufficient (adequate) illumination so that the audience may see the actors and be able to feel the environment easily visibility can be achieved through the installation of various kinds (types) of lightning equipments. Generally, the stage is divided into six or nine parts(down right, down left, down centre, centre left, centre centre, centre right, up left, up centre, upright), according to its dimensions, to design the lighting be used on stage. The visibility of an object depends upon three factors. A distance between the stage and audience, for proper visibility. In different theatres, different levels of illumination are required keeping in mind the distance between the stage and the audience.
- (B) **Integrity of lights falling upon the stage:** The number of lights to be used depends on the size of the stage, while designing the lights. The number of lights needs to be enough to illuminate the whole stage sufficiently, according to size, the number may increase or decrease.
- (C) **Its contrast with the background:** This can be viewed in the context of the distance between the actor-object with the background which it is placed in contrast to them. If the background color matches or is similar to the color worn by the actors then lights of greater utterly are required, whereas, if the color contrast then the object actor is established comparatively easily. For example if there is blue background as 'cyclorama' and the actor is wearing a red costume, then the character can be established easily.





Realistic lightning (plausible effect): If the audience does not perceive any reality in a scene it can safely be said that the lightning was illogical. The audience accepts reality as it is closer to human experiences. This is why if an impression of reality needs to be established in a realistic type play, the lightning should appear to be coming from such a source which is logical and naturally feasible, unless desired otherwise. Today, due to sensitive lightning equipments, it is possible to achieve this. For example, by throwing a beam of light from a spot with a blue colored filter for a dark night, blue-green for moon-light, orange for sunset, with a cut out of bars from a window with the use of color media and help of dimmers. The intensity of light can be controlled resulting in greater flexibility and realistic effects.

Compositional lightning: Selective visibility in this concept is one selected area, where the action takes place, is emphasized upon while the other areas are illuminated to lesser degree. Skillful lightning draws and holds the attention of the audience to that specific area and object that needs to be highlighted the lighting should assist in the proper balancing of the stage picture. It is imperative to achieve a convincing balance between the lighted darkened areas or perhaps the intermixture of dimly lit area. The lighting is usually modified according to the genre of the play and style of presentation of the play. Many times, the attention of the audience needs to be drawn towards certain objects on stage-bookshelves, paintings, sculptures etc that is when lighting is used to emphasize the object while keeping other objects and actors in dim or dark areas. All these properties, when emphasized upon, show the family background, social economic constitution and much more.

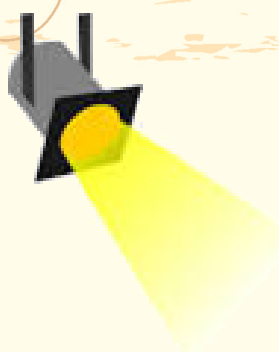
Psychological lightning: The lighting plays an important role in establishing the mood of a play. It has been proved through different experiments with stage lightning that light darkness and color values have their own characters and psychological values which establish the mood and spirit of the play. Generally light signifies joy, happiness and life, darkness symbolizes mystery and death. Blue cyclorama gives the effect of a cool atmosphere and red gives a feeling of anger and violence. It is an old formula that light should bright for a comedy and dim for tragedy.

Plastic Quality: It is the revelation of forms in 3-dimension. Theatre is a mobile, 3-dimensional art form. To reveal contours and depth, proper contrast through light and shade needs to be employed. It is possible to use light in varying tones by using it to illuminate the object from different angles. This can be achieved through usage of directional lights (key and fill in) varying their variety, and using contrasting colors from different angles. For e.g., any object, present in a drawing room scene, may be made to appear flat with lights from top from of heights from the back and sides would create a plastic quality(3-dimensional effect) in which the sense of depth can be achieved.





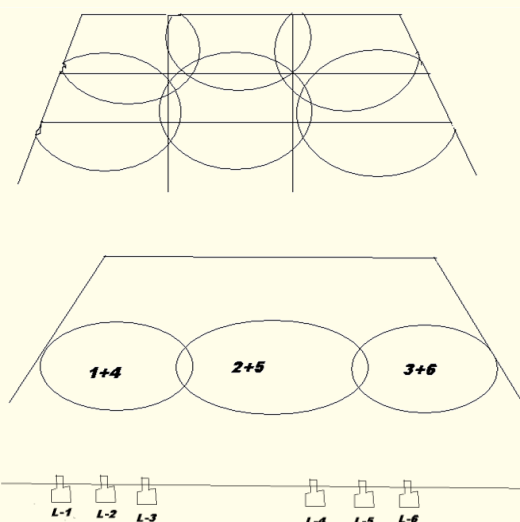
Strip Light: It is a row of mini floods in 6, 9 and 12 compartments which gives soft shadow less light. These strip battens are generally wired in three circuits, to use three colors for mixing. In India only six compartmental strip battens are available in which each holds a reflector and an ordinary bayonet cap holder and lamps which are used for general service are of 60 to 100 watt each and a strip is hung over the stage is called border light. When this strip is used for lighting background, cyclorama of a small stage and for blending of the acting area and when it is used from downstage edge to light the actors from below is called footlight. But nowadays this light is restricted because they create undesirable shadows at the back, but also on the faces of the actors.



Spot Light: It is an instrument which controls the beam of light which varies from size to size which depends upon make and design of the equipment which helps to pinpoint an object, an actor or a portion of the stage.

Lighting the Stage:

- A) Acting area:** The chief purpose (aim) of the lights is to properly light up the stage. This is the reason why the stage is divided into small portions and each area is individually lit up which gives uniform visibility. At the time of performance, there is light on the whole stage or on a particular area where the action is taking place. The light falling on different areas are coupled and attached to different dimmers. The lights used for illuminating different areas of the stage intersect one another at a particular point. Each area is lit up with the help of at least two lights, one from the left and other from the right. The shadow producing light is known as 'key light' and the other shadow i.e. dim light as 'fill-in light'. The key light represents direct light from the source or as natural and the fill-in light represents the reflection from the surroundings. This creates the 3-D effect of the object which is lit up. The light should always strike the actor from the side not from the front otherwise the 3-D quality will be missing. In order to avoid long shadows behind the actors the light should be fixed at such a high so as to make a 45 degree vertical angle and at 70-90 degree diagonal from the both sides horizontal on the actor or object.
- B) Motivational sources:** To represent the believable and logical effects of nature on stage through artificial means such as the effect of sun light, moon light, sun rise and sun set the glow in fire place, a light from a table lamp etc. is called motivational light. Various





suggestional effects are achieved through the use of additional equipments. The suggestion of sun light in a box set coming through the window is achieved by a spot light at particular height just behind the window. This spot light should be of 1000 watt with a strong beam. A cut out of bars is put on light frame. For sun light straw and pale amber color filters are used.

- C) **Back ground and cyclorama:** The area behind doors and windows in the set need to be properly illuminated with separate lights. The actor's entry and exit needs to be visible as it is very important for the characters. Flood lights need to be employed to light up above mentioned areas.

'Cyclorama' is an essential part of stage. It is used in different ways for different objectives. It shows depth, mood (With different colors), it is used to project sceneries or to project a desired patterns (the shape of clouds, rain, fire, etc.). A cyclorama flood group is made up of three or more circuits for different colors. The strip of floods is hung up at a distance of at least 6 feet from the cyclorama. The row of ground a flood strengthens the intensity of the cyclorama and helps to create the effect of sun rise and sunset with variation of colors.

- D) **Toning and blending:** Flood and strips battens are generally used to give a soft wash on the stage. It is just like fill-in light over the area. Often we work with a less number of floods in such conditions we obtain visibility through the use of these top lights without losing the specific quality of spot lights.
- E) **Special effects:** Nowadays, so many special effects are invented and added in field of stage lighting. These effects create mood, realistic effect, environment and establish specific stress on any object or an actor.

Summary

- ➔ Theatre is not just a medium to express the thoughts and philosophy but it is more than that.
- ➔ Theatre includes music, dance, human psychology human anatomy, architecture, designing, physics also.

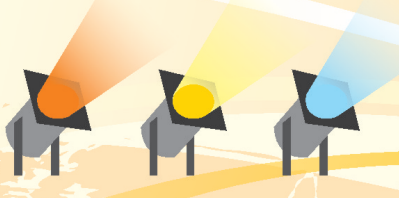
Theatre space is the area which is occupied by the audience and the actor during the course of a performance and which is characterized by the theatre at relationship fostered between the two.

Set is extra paraphernalia which give the space back ground environment to enact the play.

Designing a set depends on the intuition, description and observation of the designers.

Functions of set design are:

- ➔ Action





- ➔ Reinforcing the theme
- ➔ Time and place
- ➔ Establishing the mood
- ➔ Characterization

Elements of Set Designs:

- ➔ Line
- ➔ Color
- ➔ Texture
- ➔ Shape
- ➔ Characterization

Principles:

- ➔ Balance
- ➔ Proportion
- ➔ Rhythm

Different types of set:

- ➔ Realistic
- ➔ Naturalistic
- ➔ Expressionistic
- ➔ Symbolic

The set designer's job is to design these physical surroundings to facilitate the action of that play. A good set design will have enough information for the audience to know the concept and approach of the director to that play.

Steps of set designing:

- ➔ Play analysis
 - a) Director's concept
 - b) Writer's concept
- ➔ Rough sketch
- ➔ Ground plan
- ➔ Elevation
- ➔ Working drawing
- ➔ Perspective's drawing
- ➔ Model making
- ➔ Execution





→ **Practicability**

Costume Designer is responsible for putting clothes on each character of a play in a play production. Like the Set Designer, a Costume designer helps in visualizing a written text of a play and providing suitable attire to actors that transforms them into the characters they are playing on stage.

Types of light:

- Optical effect projector
- Ripple/rain/fire effects
- Strobe light
- Mirror ball
- Ultraviolet lamps tubes
- Bubble machine
- Flood light

Elements of Light Design:

- Illumination
- Integrity of lights falling upon the stage
- Its contrast with the background

Comprehension Questions:

Q.1. Answer the following in about 15 words:

- (i) What do you mean by locals?
- (ii) State the qualities of a good designer who is responsible for creating a Set?
- (iii) Define Scenic design.
- (iv) What is the basis of costume designing for any play?
- (v) Who is the inventor of "Baley Spot Light"?
- (vi) Suggest one of the challenges faced by a set designer.
- (vii) Define domestic action?
- (viii) How is harmony achieved within elements of art?
- (ix) At least how many elements are needed to create work of art?
- (x) How is the work of art created?
- (xi) Mention two types of balance as an element of art.
- (xii) How is rhythm important in visual art?
- (xiii) Define a set design.
- (xiv) What is meant by collaborative approach in theatre?





- (xv) What is the basis of costume designing for a play?
- (xvi) Mention two sources of lights used on stage.
- (xvii) What is absorption?
- (xviii) What is reflection?

Q.2. Answer the following in about 50 words:

- (i) What is expressionistic set?
- (ii) How the costumes help in reflecting a particular era or a character?
- (iii) Compare and contrast the terms key lights and fill in lights?
- (iv) Differentiate between spherical reflectors and parabolic reflectors?
- (v) Mention the utility of Dimmers?
- (vi) Briefly describe the elements of theatre.
- (vii) What are the three properties that define color?
- (viii) Write the basic features of a good set design.
- (ix) What is meant by stage properties or props?
- (x) Draw a line sketch of steps of set designing.
- (xi) Give the importance of costume designer in a play.
- (xii) What are the features of a good costume design?
- (xiii) What are the techniques to rearrange the light to illuminate the stage?
- (xiv) What is meant by shadow less light?
- (xv) Define the properties of light?

Q.3. Answer the following in about 75 words:

- (i) "Set design is an important aspect of play production". Discuss it.
- (ii) Mention the different types of sets in detail.
- (iii) Classify the role of a set designer in making a play realistic.
- (iv) List out the various steps involved in designing a set.
- (v) "The costume designer's color choices reflect personality, mood, or state of mind of a character." Justify.
- (vi) State the role of different people involved in giving shape to a costume, adding hue and color to a character.
- (vii) Compare and contrast the use of Realistic lightning, Compositional lightning and Psychological lightning.
- (viii) What are the qualities of a good set designer?
- (ix) What basics does a designer need to design a set?





- (x) Write short notes on the following:
 - a) Planning and execution of set designing
 - b) Costume design
 - c) Costume designer
- (xi) What is the importance of lightning in performance of play?
- (xii) Write short notes on the following:
 - a) Realistic lightning
 - b) Composition of lightning
 - c) Psychological lightning
 - d) Plastic quality
 - e) Strip light
- (xiii) Define the following in short:
 - a) Dispersion
 - b) Electric circuit
 - c) Single phase electric circuit
 - d) Prism
 - e) Multiple phase electric circuits

Q.4. Answer the following in about 150 words:

- (i) Define set? What are the objectives of set?
- (ii) What are the functions of set designing? Elaborate.
- (iii) What are the principles of appreciation and practice of art?
- (iv) List some principles that are important in appreciation and practice of art. Elaborate each principle in brief.
- (v) List different types of sets. Describe them in short.
- (vi) Who all are the parts of the costume design team? How do they play their respective roles?
- (vii) Write the history of stage lights.
- (viii) Define reflectors. Differentiate between spherical and parabolic reflectors.
- (ix) Define specular reflection, diffusion reflection and mixed reflection.
- (x) Explain the different types of lights in details.
- (xi) What are the three elements of light design? Explain.
- (xii) Describe the various elements involved in lightning of the stage.
- (xiii) What are the uses of lightning techniques?
- (xiv) Write the history behind stage lights.

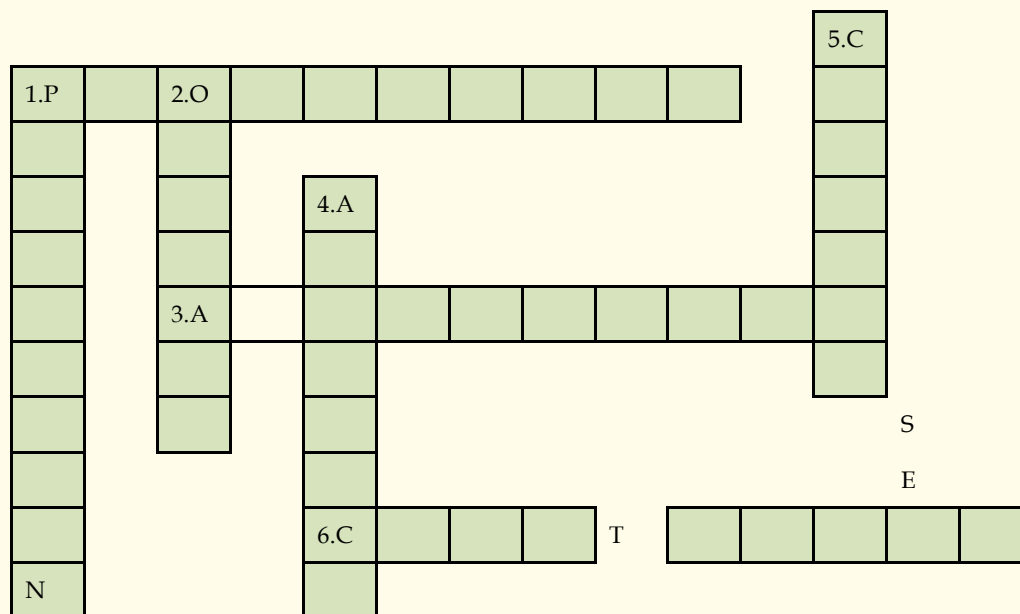




- (xv) "Designing a set depends on the intuition, description and observation of the designers". Discuss.
- (xvi) "A costume designer helps in visualizing a written text of a play....."Elaborate it giving the significance of costumes in building a character and the various techniques used in it.
- (xvii) "Stage lighting cannot be differentiated from other theatrical designing." Emphasize the importance of lighting, types of lights and how is the stage lighted?

Crossword Puzzle - 6

Solve the crossword with the given clues:



Across

1. Type of theatre space
3. A large room for performances
6. Synonym of originality

Down

1. refers to the relationship of various elements to the whole pattern or design and to each other in a given space.
2. taking place in the part of the stage that is visible to the audience
4. comes from Latin and it means those 'who hear and see'
5. An outfit or disguise

