

## **380 GRAPHIC ART**

### **GENERAL OBJECTIVES**

This programme is intended to provide the trainee with knowledge, skills and practice of Graphic Design to enable him appreciate the role and practice graphic arts in contemporary society.

### **EXAMINATION STRUCTURE**

The Trade Related Subject is

193 – Building/Engineering Drawing

### **EXAMINATION SCHEME**

This consist of two Trade group comprising of the following modules:

381 – Graphic Design and 382 – Graphic Printing

381 – This shall be made up of two papers – 381-1 and 381-2 (practical).

381-1 shall consist of two sections, A and B.

Section A is 40 objective questions while section B consists of Five questions out of which candidates are expected to answer four questions in 1 hour 30 minutes.

381-2 Practical: This paper shall consists of two questions and candidates are expected to answer one question for seven hours.

382: This shall consists of two sections A and B. Section A shall consists of 40 compulsory objective questions to be answered in 40 minutes, while section B shall consist of Five essay questions out of which candidates are expected to answer Four questions in 1 hour 30 minutes.

381: CGD 11, 12, 13, 14, 15, 16, 17, 18 and 19

### CGD 11 – GRAPHIC DESIGN

S/N	Topics/Objectives	Content	Activities/Remarks
1.	<b>Basic Drawing Tool</b> Understanding and the basic drawing tools.	1.1 The use and function of lead and graphic pencils 1.2 The varieties of pastels used in drawing. 1.3 Basic paper types.	1. Using lead pencils to initiate sketches on papers e.g. cardboard paper. 2. Experimentation of pastel, chalk, ink on different textures of papers. 3. The use of materials e.g. pencils, brushes and colours on paper to test their effect.
2.	<b>Fundamental Drawing Techniques</b> Understand the drawing techniques.	2.1 Identifying rhythm in line drawing. 2.2 Picture planes as basis of two dimensional drawing. 2.3 Use texture approach to show perspective of object and shape.	1. Establishing the accuracy of the use of materials, e.g. T-square to achieve design. 2. Achieving a design on a 2 dimensional paper 3. Sketches are expected to be made on paper. Such sketches as cylinder, cone, pyramid. 4. Craftsmanship in the use of e.g. pencil, pen, to make sketches posed before you e.g. human figure. 5. Use lines for composition drawing i.e. quick sketching, gesture drawing, caricature etc.

### CGD 12 GRAPHIC DESIGN

S/N	Topics/Objectives	Content	Activities/Remarks
1.	<b>Basic Shapes and Forms</b> Understand basic shapes and forms	Basic geometric shapes of circles, shapes and forms, cylinder, square etc.	1. Sketch geometrical shapes with the use of pencil and pen on paper e.g. triangle & square. 2. A continuation in search of basic forms on paper. 3. Make a sketch that involves an assemble of objects put together.
2.	<b>Perspective Drawing</b>	2.1 The principles of perspective e.g.	1. Produce a sketch that involves the use of the

	Use and apply appropriately, the basic principles of perspective	birds eye view, vanishing point height etc.	<p>principles of proportion and perspective to establish design.</p> <ol style="list-style-type: none"> <li>2. Use the techniques of copying and tracing in drawing to enlarge or reduce any of the drawings</li> <li>3. Make a sketch using the griding system to enlarge a portrait.</li> </ol>
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### CGD 13 GRAPHIC DESIGN

S/N	Topics/Objectives	Content	Activities/Remarks
1.	<b>Human Anatomy</b> Apply the basic human anatomy studies principle appropriately	1.1 The various parts of human anatomy and their proportions.	<ol style="list-style-type: none"> <li>1. Produce a sketch of the human figure identifying from the head to the shoulder, from the shoulder to the waist line, from the waist line to the knee and from the knee to the toe.</li> <li>2. Use pen to show studies of the feet in different positions and postures.</li> <li>3. Draw an enlarge position of the feet in different directions.</li> </ol>
2.	<b>Animal Anatomy</b> Explain and apply the basic principles of animal anatomy.	2.1 Understanding the animals anatomy.	<ol style="list-style-type: none"> <li>1. View and make a quick study sketch of the animal in front of you on a paper with pencil.</li> <li>2. Sketch particularly the movement of animal body in motion maintaining the side view.</li> <li>3. Draw in details with pencil on paper either a running goat, dog, or cat.</li> <li>4. Produce a finished drawing on any of the above using water colour or gouache technique</li> </ol>

**CGD 14 & CGD 16**

<b>S/N</b>	<b>Topics/Objectives</b>	<b>Content</b>	<b>Activities/Remarks</b>
<b>1.</b>	<b>Elements of design</b> Explain the elements of design and apply these elements in designing.	1.1 Identifying the different elements of design i.e. line, shape, curve, texture etc. 1.2 Instruments used in design i.e. drawing set T-squares, French curves etc. 1.3 The principles of design i.e. colour, harmony, content, balance, unity 1.4 Definition of colour and colour spectrum in design. 1.5 Different classes of colour i.e. cool, warm, complimentary etc. 1.6 Importance of colour in design concept.	1. Produce a design based on the varied elements 2. Produce a two or three dimensional design using various principles of design. 3. Use the colour wheel approach to construct a chart using primary and secondary colours. 4. Produce a moral or wall pattern design using colours on paper.
<b>2.</b>	<b>Colour in Design</b> Explain the significance of colour in design.	2.1 Design techniques, use for colour scheme and separation in design. 2.2 The significance of certain categories of colour for design	1. Use primary colours to produce a design for reproduction. 2. Produce a design for production using secondary colours. 3. Produce a finished design for 3 colour reproduction.
<b>3.</b>	<b>Use of Shape in Design</b> Explain the use of shapes in design and its application.	3.1 The use of various geometric shapes for design purpose. 3.2 Methods used in combining various geometric shapes for design	1. On a paper, make sketches of possible geometric shapes that would be used for creating designs. 2. Produce different design using various shapes for local newspaper

		<p>purposes.</p> <p>3.3 Significance of the use of shapes in design for reproduction</p> <p>3.4 Assessing a finished design for a four colour reproduction.</p>	<p>advertising.</p> <p>3. Design an advert to be posted in an international journal for production.</p>
4.	<p><b>Application of Graphics in Visual Communication</b></p> <p>Explain the concept of visual communication and the application of the various types.</p>	<p>4.1 Factors that affect visual presentation e.g. the audience, the location, the content etc.</p>	<p>1. Produce an awareness advert for any environmental hazard. Your design should have a target audience and location.</p>
5.	<p><b>Layout Techniques</b></p> <p>Understanding the principles of layout techniques and its application.</p>	<p>5.1 The various layout techniques in printing.</p> <p>5.2 Equipments used in reproduction from layout to finishing.</p>	<p>1. Make a design for production using the various layout.</p> <p>2. Produce a design for a beverage product from the thumb nail sketches to the finish.</p>

### CGD 15 GRAPHIC DESIGN

S/N	Topics/Objectives	Content	Activities/Remarks
1.	<p><b>Texture in Design</b></p> <p>Explain the importance of texture in design.</p>	<p>1.1 Textures in design and the importance of texture in design.</p>	<p>1. Make designs using pen, colours, patterns, tones, and lines to create different texture on a paper.</p> <p>2. Produce monochrome design of any shape</p> <p>3. Establish a package design for cosmetics using various textures and shapes as dummies.</p>
2.0	<p><b>Use of Tones in Design</b></p> <p>Explain the use of tones and the application in design.</p>	<p>1. Application of tones in designs</p>	<p>1. Use pen and ink to produce a design for simple workshop tools using tonal gradation technique.</p> <p>2. Produce object with 3 dimensions like cylinder, cube, cone on a 2</p>

			<p>dimension surface.</p> <p>3. Use pointillism to produce a design for a monochrome</p> <p>4. Design an advert for any electronic using pointillism on paper.</p>
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### CGD 17 GRAPHIC DESIGN

S/N	Topics/Objectives	Content	Activities/Remarks
1.	<p><b>Techniques of Colour Matching in Design</b></p> <p>Explain the importance of the various techniques of colour matching in design and its application.</p>	<p>1.1 The different approaches of colour matching in design.</p> <p>1.2 The importance of colour scheme in design.</p> <p>1.3 The significance of aesthetic in design.</p> <p>1.4 The advantages and disadvantages of retouching in design</p> <p>1.5 Analysing design in visual, functional, aesthetic and economic value.</p>	<p>1. Produce a colour scheme for an emblem using poster or water colour on paper.</p> <p>2. Produce a book-cover for an Author who is ready to publish his book.</p> <p>3. Prepare a record jacket for a new album.</p>

### CGD 18 GRAPHIC DESIGN

S/N	Topics/Objectives	Content	Activities/Remarks
1.	<p><b>Techniques of Typographic Design</b></p> <p>Use the appropriate techniques in typographic design.</p>	<p>1.1 Listing the types of typographic design</p> <p>1.2 The problems of readability and legibility of type faces design.</p> <p>1.3 The functions of simplicity in typographic design.</p> <p>1.4 Finishing techniques in typographic design.</p>	<p>1. Making use of any typography design, create a headline to be published in a newspaper</p> <p>2. Produce an illustration with text on them to enhance learning in the Nursery level of education.</p>
2.	<p><b>Different Techniques of Lettering</b></p>	<p>2.1 The grid method techniques in letter construction.</p>	<p>1. Pick settled letters and construct the different griding method techniques.</p>

	Explain and apply the different techniques of lettering correctly.	<p>2.2 Stating the methods of designing type faces with emblems on serif type faces, ascenders and desenders.</p> <p>2.3 Identifying the upper and lower cases and their characteristics.</p> <p>2.4 Produce script calligraphic letters to construct sentences and or captions.</p>	<p>2. Construct alphabets with the serif type face on paper.</p> <p>3. Produce on paper all twenty-six alphabets in both upper and lower cases on paper.</p> <p>4. Design a typographic freehand lettered poster.</p>
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### CGD 19 GAPHIC DESIGN

S/N	Topics/Objectives	Content	Activities/Remarks
1.	<b>Combining Typefaces</b> Methods of combining typefaces	<p>1.1 Methods of combining caps and low in design</p> <p>1.2 Produce a College Prize Giving Certificate in three colours using a unique typeface.</p>	<p>1. Make a rough for a book cover, carefully using not more than two different typefaces to achieve.</p> <p>2. Produce a brochure for programme of activities marking the college sports week using lower case of a particular typeface.</p> <p>3. On an embossed paper prepare prize certificate in not more than three unique colours and typeface.</p>
2.	<b>Combining Types and Visuals</b>	<p>2.1 Preparing sketches in pencils for a label design.</p> <p>2.2 Designing colour labels using simple typeface for a tomato factory.</p> <p>2.3 Method of designing label for</p>	<p>1. Make a meaningful rough on cardboard paper with pencil – various label design.</p> <p>2. With the design achieved in 2.1, put in colour the label design with typeface for a tomato, juice factory.</p> <p>3. Cut a 20cm x 20cm</p>

		<p>bottled drinks, juice factory etc.</p> <p>2.4 State the stages of designing labels.</p> <p>2.5 Designing simple Christmas or wedding card</p> <p>2.6 Produce an emblem using an alphabet for a company or organization.</p> <p>2.7 Producing and design an emblem for a company or organization combining alphabet and simple visual.</p> <p>2.8 Preparing trade mark for local food processing and ceramic industries.</p> <p>2.9 Producing an interesting emblem for the Graphic Arts Department of your college using two or three colours only.</p>	<p>cardboard paper, now construct with a compass a double circle, and inside the circle design a ripe mango.</p> <p>4. Prepare a rough of a Christmas or wedding card, using items that depicts which ever of the above. For a Christmas card e.g. Santa Claus, Christmas tree etc for or wedding card, a couple with rings etc.</p> <p>5. Prepare with use of art materials and use of alphabet an emblem of a suitable company in your locality.</p> <p>6. Make an emblem with the use of colours and other art materials, emphasis on the use of alphabet and simple visual.</p> <p>7. Cut out 2 20cm x 20cm cardboard paper on them; prepare trade marks with colours art and other materials for a food or ceramic industries.</p> <p>8. A continuation of 2.7, with more emphasis on emblem design for the Graphic Arts Department of an institute of your choice.</p>
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### CGA 11, 12, 13 GRAPHIC PRINTING

S/N	Topics/Objectives	Content	Activities/Remarks
1.	<p><b>Evolution And Structure Of The Printing Industry</b></p> <ol style="list-style-type: none"> <li>1. Explain the evolution and structure of the printing industry</li> <li>2. Outline the structures of a press</li> </ol>	<ol style="list-style-type: none"> <li>1.1 History and contribution of printing to civilization</li> <li>1.2 The historical development of printing in Nigeria and the problems currently facing the industry.</li> <li>1.3 Identifying the trade houses in the printing industry and their basic activities i.e. packaging, publishing, general jobbing, newspaper, scarcity printing.</li> <li>1.4 The roles of the trade unions, employers associations, professional bodies, training institutions and examining bodies in the printing industry.</li> <li>1.5 Departmental structure of a typical printing establishment i.e. organizational chart showing the major departments, sections and functions.</li> </ol>	<ol style="list-style-type: none"> <li>1. Explain the history of printing and printing processes and its contribution to human advancement.</li> <li>2. An explanation of what printing in Nigeria had solved in terms of media coverage etc and problems facing our printing industry.</li> <li>3. Explanations on the activities in our primary industry and most especially visits or fieldwork to any packaging, publishing homes to see their output.</li> <li>4. Knowing what trade unions are about by simply constructing of a chart indicating and tabulating employers associations etc...</li> <li>5. Explain and construct a chart indicating the printing establishment considering the departments, sections and their daily functions.</li> </ol>
2.	<p><b>Relief Process</b></p> <p>Describe the relief process and its application in the printing process.</p>	<ol style="list-style-type: none"> <li>2.1 The relief process of printing, taking into consideration image and non-image areas.</li> <li>2.2 Sequence of production for any given job, in relief process.</li> <li>2.3 The use of the work</li> </ol>	<ol style="list-style-type: none"> <li>1. Experimentation carried out with the use of yam material by mere spelling a word e.g. "MOVE" on yam and engraving. Finally add ink on surface and print on paper. Advance surface prints other areas recede.</li> <li>2. A process whereby line is cut and used to engraving some</li> </ol>

		<p>ticket.</p> <p>2.4 Identifying prints by the relief process.</p>	<p>letters, inked and printed on paper.</p> <p>3. A drafting of a proformer on paper printed or hand written indicating items.</p> <p>4. On a wood block with the aid of knife, cut negative areas away.</p>
3.	<b>Planographic Process</b>	<p>3.1 The planographic process, taking into consideration the image and non-image areas</p> <p>3.2 The sequence of production for any given job in planographic process.</p> <p>3.3 Identify by the planographic process</p>	<p>1. Explaining how an artist draws an image with greasy crayon directly on flat stone slab. After, a solution of nitric acid is applied, greasy crayon containing image prints, while non-image area accept water..</p> <p>2. A continuation of experimentation on stone slab, when image is established as in 3.1, then the use of ink roller to be passed on surface and printed.</p> <p>3. Describing the imagery after experiment which shows images ascending and revolving.</p>
4.	<b>Intaglio Process</b>	<p>4.1 The intaglio process taking i.e. the image and non-image areas.</p> <p>4.2 Sequence of production for any given job in intaglio process.</p> <p>4.3 Identifying prints by the intaglio process</p>	<p>1. Explain by carrying out the use of metal plates into which lines are created and incised such that plates are inked by forcing them into the linear depression.</p> <p>2. A continuation as in 4.1, but this time an elaborate experimentation of a portrait on metal plate, with linear depressions containing ink to be printed.</p> <p>3. On printing it is expected that the metal surface wiped with piece of cloth leaves the depression with ink printed.</p>
5.	<b>Process Camera</b> Identify and operate a	5.1 Distinguishing between gallery and	1. Explaining through sketches both cameras. Then

	<p>process camera.</p>	<p>darkroom camera and list the advantages and disadvantages of each.</p> <p>5.2 Distinguishing between the features of the vertical and horizontal process camera.</p> <p>5.3 Identifying the component parts of a typical process camera and state the functions of each.</p> <p>5.4 The principle of lateral reversal using the prism or mirror.</p> <p>5.5 Principles and methods used in obtaining images permanently on light sensitive emulsions.</p> <p>5.6 Copying original art work and mounting correctly on the camera copy board.</p> <p>5.7 Focusing to obtain sharp image of the original on the image plane to the required size.</p> <p>5.8 The Principle of half-tone dot filtration to complete screen distance when producing half-tone negatives through glass cross line screen.</p> <p>5.9 Determining when and how to obtain laterally reversed images with the aid of prisms and mirrors.</p>	<p>comparisons, then after their advantages and disadvantages.</p> <p>2. With the diagrams of both process cameras studied and its features compared.</p> <p>3. Explaining by making sketches of the camera and describing the functionality of the parts.</p> <p>4. Demonstrate with suitable illustration.</p> <p>5. Explain exposure principles.</p> <p>6. Execute a practical experiment.</p> <p>7. Explaining on the process camera by demonstrating the movement of the parts to make the image sharp e.g. by adjusting the aperture.</p> <p>8. A practical demonstration of a step by step process.</p> <p>9. Reverse an image with the aid of prism and mirrors or explain how it can be done.</p>
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		5.10 Producing combined line and half-tone positive from line and half-tone negative.	10. Carry out an illustration combining line and half-tone positive from line and half-tone negative or explain how it can be done.
6.	<b>Table Top Printing Machine Operation</b> Identify component parts of a table top printing machine and operate it.	6.1 Functions of the various parts of flat-bed, sheet-fed letter press cylinder machines. 6.2 Operating the letter press cylinder machine using the control keys. 6.3 Outline the wash-up procedures for inking rollers and ink-duct 6.4 Maintaining the cylinder machine, e.g daily oiling of moving parts, washing of inking roller and ink duct. 6.5 Cut, grease and perforate paper and boards for given purposes, using various methods. 6.6 Page number jobs on the cylinder machine identification and uses of basic.	1. Produce an image via the flat-bed, sheet-fed letter press cylinder machines. 2. Carry out an activity with the letter press cylinder machine. 3. Explain how the wash-up procedures for inking rollers and ink-duct is performed. 4. Maintenance and safety precautions in handling the cylinder machine. 5. A practical demonstration with the use of materials to obtain a finished operation 6. Explaining the page numbering of jobs.
7.	<b>Screen Printing Methods</b> Explain and carry out the basic screen printing process.	7.1 Screen printing materials and equipment e.g. squeegee, printing frame, base board, drying racks, counter weight, stock inks and solvents. 7.2 Selecting and using correct tools, equipments and	1. Carry out a practical activity of identifying common tools for screen printing. 2. Produce various images to be registered on a mesh contained in a frame with the use of photo synthesizer and photo emulsion and water to rinse. 3. Expose an image on the mesh going through the

		<p>materials for a given screen printing job.</p> <p>7.3 Register correctly printed jobs.</p> <p>7.4 Mix correct types of inks to correct consistency for a chosen surface.</p> <p>7.5 Producing prints using hand or semi-automatic printing machines in one to four colours.</p> <p>7.6 Racking system for drying of printed job.</p>	<p>normal processes as in 7.2</p> <p>4. Examine the use of retarder on ink to detect and regularize the printing of images with the surface of mesh neatly cleaned.</p> <p>5. Produce an image to be executed in four colours of your choice.</p>
8.	<p><b>Print Finishing</b> List and describe the materials and equipments used in print finishing.</p>	<p>8.1 List and describe equipment and accessories used in print finishing operations e.g. sewing frame, backing machine, line press, bone folder etc.</p> <p>8.2 The differences between bench and machine operations.</p> <p>8.3 Explanation of common technical terms in print finishing operations e.g. glueing up signatures, guarding, staggered stitching, etc.</p> <p>8.4 Application of various book-binding materials e.g. leather, buckram, PVAC, coated paper, gold foil etc.</p> <p>8.5 Classifying paper</p>	<p>1. A look into the various equipment and accessories used in print finishing.</p> <p>2. A demonstration of how finished works are to be arranged on the bench which is different from the machine operation which takes place before.</p> <p>3. A demonstration to use materials e.g. glue, guarding methods and stitching etc to realine a perfect job.</p> <p>4. Execute an activity of book-binding or explain the process of how it is been done bearing in mind the materials.</p> <p>5. Get little samples of</p>

		<p>according to their sizes, substances grammage, texture and colour</p> <p>8.6 Performing folding operations using bone folder.</p> <p>8.7 Methods of binding and storage.</p> <p>8.8 Collating correctly sections of a book.</p> <p>8.9 Selecting suitable wires for carrying out various stitching operations using manual and power operated machines e.g. side stitching, saddle stitching.</p> <p>8.10 Selecting suitable threads for hand and machine screwing.</p> <p>8.11 Gluing-up operations using appropriate tools.</p> <p>8.12 Difference between trimmed and backrig edge-out job.</p> <p>8.13 Moulding and backing operations.</p> <p>8.14 Using with proficiency, hand guillotine for print finishing operations.</p> <p>8.15 The different types of binding operations.</p>	<p>different paper and create a folder indicating their sizes, texture, colour etc.</p> <p>6. Describe practically the ways of using a bone folder after assembling a some text.</p> <p>7. Making experimentation by grouping from page to page and by numbering a book.</p> <p>8. Explain the methods of binding and storage.</p> <p>9. A continued assembling as in 8.7.</p> <p>10. Perform various stitching operation, comparing and contrasting the manual to the power operated machines.</p> <p>11. Create a album of suitable threads for hand and machine thing, indicating their names.</p> <p>12. Explain the process in carrying out gluing-up operation and its apparatus.</p> <p>13. With the help of the guillotine an assembled book is trimmed to size which is different from a job not relevant to the book.</p> <p>14. Execute by practical illustrations.</p> <p>15. As in 8.3 a practical demonstration of the guillotine as it is used to chop off unwanted paper not relevant to a book.</p> <p>16. Produce practical works on</p>
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			different types of binding operations.
<b>9.</b>	<b>Principles of Health and Safety</b> Knowing the general principles of health and safety in the printing industry.	9.1 Identifying the various hazards and their causes in the printing industry and state necessary precautions e.g. obstruction of gangway, improper dressing, exposure of toxic fumes and chemicals, working with faulty machines and equipment etc.  Safety rules in the printing industry and habitually apply them in working situations.	1. A tour to a nearby printing industry to have “first hand” experience on the trade.  2. Carry out a field work on printing process which should be documented.

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## CGA 12 INTRODUCTION TO PHOTOGRAPHY

S/N	Topics/Objectives	Content	Activities/Remarks
1.	<b>Types of Cameras</b> Identifying the types of cameras used in photography and operating them.	1.1 Definition of photography 1.2 The different types of cameras and lenses in general photography. 1.3 Explaining the characteristics of 2 twin lens camera and 2 range finder camera. 1.4 The functions and varieties of studio cameras. 1.5 Differences between single-lens of lens camera and the twin-lens camera. 1.6 Advantage and disadvantages of using the single-lens-reflex and the twin lens camera. 1.7 Operating the camera types in 1.6 above.	1. Explain the meaning of “photo” and “Graphics”. 2. Show with the aid of illustrations types of cameras and lenses. 3. Explain the two lenses of the twin lens. Show which is appature lens and view finder lens. 4. Display or illustrate different types of cameras and show how they work. 5. Explain the periscope mechanism of the “SLR” from the view finder to the lens and show the functioning of the two lenses of the twin lens. 6. Explain the advantage/ disadvantage of using the turn lens camera and the “S-L.R” CAMERA. 7. Practicalise the use of both cameras.
2.	<b>Parts of a Camera</b> Identify various parts of a camera	2.1 Different types of camera lenses and their functions. 2.2 The functions of exposure control. 2.3 Functions of aperture and shutter spaced. 2.4 Explaining the term “in focus” and “out of focus”.	1. Show, with the aid of illustrations the different types of lenses, 60mm, 80mm, fish-eye, telephoto zoom lenses etc. 2. Explain the various F-stops as it affects different light conditions. 3. Explain how an effective control of aperture and shutter speed affects focus and exposure. 4. Show with the aid of illustration “in focus” and “out of focus” exposures, both in films and pictures.



		<p>2.5 The functions of viewing lens and diaphragm.</p> <p>2.6 Identifying the film loader and film roller.</p> <p>2.7 Identifying F-stop and shutter control.</p> <p>2.8 The functions of the flash gun.</p> <p>2.9 Functions of the exposure meter.</p>	<p>5. Practically show the les of the camera through the diaophram from the back of the camera, when opened.</p> <p>6. Identify both.</p> <p>7. Identify both.</p> <p>8. Explain the function of the flash Gun and how it can be controlled by the handle.</p> <p>9. Explain how the exposure motor controls the amount of light that enters the camera.</p>
3	<p><b>Techniques of Loading Films in a Camera</b></p> <p>3. Describe the techniques and the process involved in loading a camera.</p> <p>4. Load the camera.</p>	<p>3.1 Identifying the types of films used in photography.</p> <p>3.2 State their characteristics and functions.</p> <p>3.3 Identifying the types of films used in particular camera models i.e. 120mm, 135mm, etc.</p> <p>3.4 Characteristics of soft, normal and hard films.</p> <p>3.5 Explaining the term “film speed” the functions and reaction to light.</p> <p>3.6 Loading film in the following cameras; single lens, twin lens, range finder and studio cameras.</p> <p>3.7 Operate any of the cameras in 3.6 above to expose the film for 2 given</p>	<p>1. Explain, Negative and Positive films in their varying sizes.</p> <p>2. Explain items characteristics and functions as it might affect the production of slides and pictures.</p> <p>3. Identify the films as it concerns the different types of camera.</p> <p>4. Explain the differences between hard and soft films and state their advantages over one and the other.</p> <p>5. Explain “film speed in ASA, and 180, 100, 200, 400 etc and state how and why they differ.</p> <p>6. Load the films or illustrate how the camera can be loaded.</p> <p>7. Operate the cameras or illustrate how they can be operated.</p>

		project.	
<b>4.</b>	<b>Methods of Taking Pictures</b> Apply the basic principles of taking pictures.	4.1 Methods of handling cameras for taking pictures 4.2 Necessary productions to be taken before taking pictures. 4.3 Using correct F-stop and shutter speed to take pictures under natural light. 4.4 Set the camera. 4.5 Factors to be considered in taking pictures of moving objects i.e. shutter speed, film speed, aperture etc.	1. Explain the handling of cameras. 2. Explain careful focusing, viewing and shooting. 3. Explain corresponding F-stop and shutter speed under natural light i.e. morning, afternoon, evening and sunset 4. same as above. 5. Explain the advantages of using larger aperture and slower speed for artificial light photography. 6. Take pictures of objects under different lighting conditions i.e. studio light, camp-fires, candle light etc. 7. Explain the advantages of using high shutter, smaller aperture and shorter time for taking pictures of moving object. 8. Demonstrate it and show illustrations. 9. Take pictures using wide angle lens of a congregation. Take pictures of a horse race, football match athletics competition using telephoto lens.
<b>5.</b>	<b>Process of Identifying films</b>	5.1 Explain the layout and procedures.  5.2 Functions of darkroom equipment e.g camera enlargers, film negative carrier, light filters, safe lights, paper driers, film developing tanks,	1. Visit the dark room and identify all equipment i.e. timer and alarm systems in developing film negatives. 2. Identify stale and active developers and their characteristics. 3. Show the “wet” and “dry” section of the darkroom and explain its procedure. 4. Identify film negative in

		<p>chemicals.</p> <p>5.3 Functions of the light mirror.</p> <p>5.4 The process of developing a film using the see-saw method, developing tank and the computer.</p> <p>5.5 Explaining the terms “under exposure” and “over exposure” in film developing.</p> <p>5.6 The role of developers and fixer in the developing process.</p>	<p>terms of quality of development and tonal graduations.</p> <p>5. Explain the function of all darkroom, equipment with suitable illustrations, identifying all their parts.</p> <p>6. Explain with practical illustration.</p> <p>7. Show films of both categories and explain how they are achieved.</p> <p>8. Explain with demonstrations.</p>
6.	<p><b>Printing Pictures</b> Print pictures from negatives</p>	<p>6.1 Parts of the camera, enlarger and types, functions of the enlarger and types of negative film carriers.</p> <p>6.2 Preparing the correct measures of A and B developer and use it to make a test strip to assess correct development time.</p>	<p>1. with the aid of 2 suitable illustration show the parts and their functions.</p> <p>2. Demonstrate the mixing of chemical and printing process.</p>
7.	<p><b>Production of Slides</b> Produce slides from negatives.</p>	<p>7.1 The various methods of slide production and the procedure for making them.</p> <p>7.2 Operating a slide projector using the slides produced in 7.1 above.</p>	<p>1. Physical demonstration in a step by step logical sequence.</p> <p>2. Produce slides in at least two methods.</p> <p>3. Show the slides produced with a slide projector.</p>

<b>8.</b>	<b>General and Processes (Camera) Photography</b> Identify the relationship between general photography and process (camera) photography.	8.1 The similarities and differences between general photography and process camera photography 8.2 The different types of camera used for usual communication, their care and handling.	1. Explain with suitable illustrations. 2. Explain how to care, protect, maintain and the overall handling of cameras.
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### CGA 13 INTRODUCTION TO COMPUTER GRAPHICS

S/N	Topics/Objectives	Content	Activities/Remarks
1.	<b>Computer</b> Define computer and identify its component parts.	1.1 Definition of computer, its working principles and the different types of computer 1.2 Difference between software and hardware	1. Make a detail sketch of a computer labeling its differently parts/units. 2. Explain the visible tangible parts of the computer known as hardware and the invisible known as software.
2.	<b>The Use of Computer</b> Appreciate the use of computer.	2.1 Functions of the computer. 2.2 Identifying a programme in a computer e.g. page maker, ventures etc. 2.3 Limitations of a computer.	1. Explain the functions of computer as it affects C.A.D. (computer aided design) 2. Learn about various softwares e.g. coral draw, adobe Photoshop that is beneficial to graphics and 3. Explain how the operator is the most limiting factor of a computer.
3.	<b>Computer In Graphics</b> Translate the knowledge of computer into graphics.	3.1 The use of Visual Display Units (VDUs) in computers. 3.2 The advantages and disadvantages of the computer, over manual production.	1. Explain how the operator sees his input on the screen (VDU) 2. Produce a simple design using manual production and the same design using the computer and compare.
4.	<b>Computer Operations</b>	4.1 Identifying the various keys, symbols of the	1. Produce a design with any software e.g. coral draw etc

	Knowing the basic operations of computers and translating this knowledge.	<p>computer and their functions.</p> <p>4.2 Producing single design with the computer</p> <p>4.3 Safety precautions to be taken in operating the computer.</p>	<p>suitable for reproduction.</p> <p>2. Maintenance of the various parts of the computer.</p>
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### CGA 14 MATERIALS AND ESTIMATION IN GRAPHIC ARTS

S/N	Topics/Objectives	Content	Activities/Remarks
1.	<p><b>Materials and Properties In Printing</b></p> <p>Identify the basic materials and their properties in printing.</p>	<p>1.1 Identifying the various materials used in printing i.e. paper, boards, inks etc.</p> <p>1.2 The manufacturing process of basic printing materials e.g. paper, ink etc.</p> <p>1.3 The properties of various printing materials</p>	<p>1. Carryout a detail study of materials and properties of printing and its manufacturing processes.</p>
2.	<p><b>Material Specification</b></p> <p>Determine materials to specifications.</p>	<p>2.1 Definition of specification as it relates to printing materials e.g. paper, ink, boards etc.</p> <p>2.2 Various trade terms e.g. basic weight, grammage, film speed, tensile strength, paper sizes etc.</p>	<p>1. Make researches into the various specification as it relates to materials in printing.</p>
3.	<p><b>Material Quantities</b></p> <p>Prepare accurately the quantities of</p>	<p>3.1 Types of materials required for a job.</p> <p>3.2 Estimating the</p>	<p>1. Prepare a proposal giving the material, cost, duration etc of any given outdoor</p>

	materials and cost of the job.	<p>quantity of materials required for a job.</p> <p>3.3 Estimating production time required for a given job, taking into consideration the production process.</p> <p>3.4 Accessing profitability by comparing estimated cost and actual cost of the job.</p>	publicity medium.
4.	<b>Stock Control</b> Undertake simple stock control procedures.	<p>4.1 The concepts of minimum level, maximum lead time and safety stock in stock regulation.</p> <p>4.2 Using the following documents in the effective control of stock.</p> <ul style="list-style-type: none"> <li>- stock ledger</li> <li>- material requisition card etc.</li> </ul>	