PRINTING CRAFT PRACTISE

EXAMINATION SCHEME

There will be three papers, Papers 1, 2 and 3 all of which must be taken. Papers 1 and 2 will be a composite paper to be taken at one sitting.

Paper 1: will consist of forty multiple-choice objective questions all of which are to be answered in 45 minutes for 40 marks.

Paper 2: will consist of five essay questions. Candidates will be required to answer **any four** in 1½ hours for 60 marks.

Paper 3: will be a practical test of 1 hour duration. It will consist of two practical questions out of which candidates will be required to answer one for 100 marks.

A list of materials for the test shall be made available to schools not less than two weeks before the paper is taken for material procurement and relevant preparations.

ALTERNATIVE TO PRACTICAL TEST

Alternatively, in the event that materials for the actual practical test cannot be acquired, the Council may consider testing theoretically, candidates' level of acquisition of the practical skills prescribed in the syllabus. For this alternative test, there will be two sets of questions both of which must be answered in 2 hours for 100 marks.

DETAILED SYLLABUS

S/NO.	CONTENT	NOTES
1	Introduction to the Art of Printing	(i) Art of Definition, explanation of printing. (ii) Importance, products advantages and uses. (iii) Printing in Nigeria-Survey Press,Federal Government Press,RailwayPress,Daily Times and other Press Houses. (iv) Copyright law,History - Origin,Chinese,Johan Gutenberg.The role of Hope Waddel and Henry Townsend (1846 – 1926) and (1926 – 1960). (v) Printing and Career – Importance, Careers, e.g. Lithography machine minders, etc. (vi) Printing Processes, description materials/tools/equipment – letter press/relief

		printing; offset/lithography; Gravure/intaglio, screen, stencil/flexography.
2	Workshop safety and maintenance	(i) Technical workshops for printing – types e.g. lithographyand machine room. (ii) Safety in the workshop – precautions, air-condition, electrical and lightings, dark rooms, machine rooms. (iii) Safety in the Binding and Print finishing, safety in the hot metal composition room. (iv) Maintenance of machines, tools and equipment in the Printing workshop, Enumerate the procedures.
3	Letter Assembly (a) Hand Composition (b) Design for Printing (c) Mechanical Composition (d) Photo-composition	Identification e.g. Tools and facilities. Explanation in simple Principles and terminologies, techniques, structures and parts of types. Identification of type faces and typography. The concepts of basic design and instrument. Description and listing of differences between monotype and linotype; accessories and their uses. (i) Equipment/tools, accessories. (ii) Meaning: principles and components (iii) Advantages.
4	(a) Print Finishing (b) Binding materials, tools and equipment (c) Binding (d) Pamphlet	(i) Meaning, importance,etc (ii) Types and processes e.g. Edition case binding and loose leaves. (iii) Technical Terms. (iv) Materials and accessories. (i) Materials – e.g. sewing- thread and leathers. (ii) Bone-folders and guillotine. (iii) Papers and boards. (i) Types: book, pamphlet, padding, edition case, loose – sheet, perfect binding. (ii) Processes. Importance, explanation, description and processes, e.g. cutting, stitching, etc.

	(e) Perfect binding	Concept, importance and processes. Differences between perfect binding and other types.
	(f) Edition binding	Explanation. Edition binding materials and their usages. Distinguish between edition binding and others.
	(g) Loose sheet binding	Description, operational outline and materials, tools and equipment.
	(h) Warehouse	(i) Define warehouse. (ii) Identification and uses of types of printing materials e.g. paper and board, ink, chemicals, printing surfaces, sizes, substances , grammageetc. (iii) Stock and inventory control.
5	Screen printing (1) Frame/stencil making	(i) Origin of screen printing (ii) Preparation and methods - wooden frame, mesh (silk), hand-made stencil with card board; stencil using block out method. (iii) Stretching of the mesh on the frame. (iv) Materials and tools – frame mesh, shoulder joint, glue and nails,squeegee,wax,paint, sponge, cardboard, oil base or water free ink.
	(a) Print	Making print using stencil with attention on registration marks and different colours.
	(b) Photographic screen making	(i) Coating of the screen with sensitized solution. (ii) Exposure of the screen with the gelatin solution in suitable source of light and development with water. (iii) Identification and uses of the following materials – silk or organdie gelatin coating, dichromate, positive image, board light source, tracing paper, black light source, tracing paper, black paint (Opaque).
	(c) Image Reproduction	(i) Transferring of image from the mesh/stencil to the substrate, e.g. paper, sticker, plastic, etc. (ii) The use of enlarger and Kodaklith translucent printing paper.
6	Lithography – Process Camera Work	Preparation, interpretation and uses.

	(1) Planning - (a) Work Ticket (b) Layout Planning	(i) Definition of lithography and layout planning (ii) The procedure and uses of the layout planning in chronological order, e.g. identification of griper margin, image area, folds and gutter margins. (iii) Materials – Negative/Positive flats, masking tape/brown paper, etc. Tools and equipment and their uses: Light table, stripping knife, etc. (iv) Identification of Negative/Positive e.g. emulsion and non-emulsion side.
	(2) Film making/ Process camera Plate making	(i) Definition, qualities, functions and safety rules of darkroom. (ii) Equipment and materials for film making. e.g. chemicals, original art work, (different type) funnels, developing-sink/tray, mixing tools, pail.etc. Process camera; Digital Colour Separation Machine. (iii) Types of films and their characteristic, Panchromatic films,Orthocromatic film, Laser films. (iv) Chemicals – Developer; fixatives and stop bath; and their uses. Preparation and preservation of films. Effect of safe-light on films. Description of plate making equipment and their uses. e.g. plate processor, developing sink, exposure/frame vacuum, etc. Materials – Pre-sensitised plates, gum, arabic. The process of making corrections and preservation of plates and safety procedures.

7	Machine Printing (i) Offset Machine Printing	(i) Techniques of offset printing (ii) Spare parts and maintenance procedures e.g. lubrication, bearings, rollers setting, etc. (iii) Brief history of offset lithographic machine. (iv) Configuration of lithographic machine. (v) Plate and adjustment in correcting image position on the sheet during the printing process. (vi) Functions of the important parts of the press and its running. (vii) Major units of a lithographic printing machine and their functions.
	(ii) Relief Printing	(i) History; explanation; principles and types of relief printing. (ii) Important parts and maintenance. (iii) Method and schemes of imposition. (iv) Types of image carrier. (v) Tools and Materials- Chase, Quoin, Solvents, Oils, etc.
	(iii) Gravure Printing (Intaglio)	(i) History, explanation, principles and types of Gravure Image Carrier. (ii) Products and advantages/disadvantages.
	(iv) Flexographic Printing	(i) Definition and concept of flexography and its image carrier. (ii) Differences between flexography printing and other machine printing. (iii) The importance of flexographic printing to packaging industry e.g. cellophane and pharmaceutical industry. (iv) Products- cellophane bags, pharmaceutical and food packing products.
8	Legal Aspects of the Printing Industry	(i) Trade houses in the printing industry and their activities e.g. Employers Association; Professional Bodies, Training Institutions, Examination Bodies and other Foreign Trade House. (ii) Copyright

LIST OF FACILITIES AND MAJOR EQUIPMENT/MATERIALS REQUIRED

ITEM NO	EQUIPMENT	QUANTITY REQUIRED
1.	Vacuum Frame	2
2.	Table	4
3.	Screen mesh stretcher	5
4.	Gullotine	1
5.	Magnifier	10
6.	Squeege	20
7.	Stencil knife	10
8.	Compass cutter	2
9.	Drying Rack (Cabinet)	1
10.	Light table	4
11.	Pallet	2
12.	Register scope	1
13.	Destometer	1
14.	Type scale	1
15.	Printing down frame	1
16.	Small offset machine	1
17.	A set of Computer	1
18.	Scanner and Printer	1 each
19.	Giant stapler	2

SUGGESTED READING LIST

S/N	TITTLE	AUTHOR
1	Printing Technology	Adams Faux
2	Comprehensive Graphic Art	Dr Ervin A, Denis Dr John D,Jenkins
3	Screen Printing Techniques	Albert Kosloff M,A
4	An Approach to Printing Management	Soji Adeniyan
5	Graphic Communication in Nigeria	Abdul Rasheed Afolabi