Syllabus for **Printer's Material Science-II**

Name of the Course: Diploma in Printing Technology

Course Code:	Semester: Fourth
Duration: 16 weeks	Maximum Marks: 100
Teaching Scheme	Examination Scheme
Theory: 3 hrs per week	Internal Examination: 20 marks
Tutorial: 2 hrs per week	Assignment: 10 marks
Practical: Nil	End Semester Examination: 70 marks
Credit: 3	

Aim: To make students acquainted with all the chemical aspects of printing so that they may be able to solve all chemistry related problems that may arise during printing.

Objective: The students will be able to

1. Produce a perfect negative or positive film whenever required.
2. Prepare suitable image carrier for any printing process.
3. Make proper selection of ink compatible with printing substrate, printing process and end-use of the substrate.
4. Understand the necessity for colour management.
5. Make correct requisition of paper for any printing process.

Pre-requisite: Elementary knowledge of organic chemistry (taught in second semester).

Detail Course Content

Unit	Topic **Group A**	Hrs/unit	Marks
Unit 1 **Photographic Materials and Chemistry of Photography**	1.1 Constituents of photographic emulsion and uses of each constituent 1.2 Characteristics of photographic film base 1.3 Effect of film exposure-formation of latent image 1.4 Steps for film processing- Development, Fixing, Washing, Drying 1.5 Development bath and fixing bath constituents 1.6 Use of all constituents in development bath and fixing bath 1.6 Effect of developer and fixing bath chemicals on film emulsion 1.7 Chemistry of washing 1.8 Use of Hypo Clearing Agent 1.9 Sensitometry and Densitometry	**10**	**10**
Unit 2 **Image Carriers**	2.1 Offset plate making- deep etch process, wipe-on process, P.S. plate processing, waterless plate making 2.2 Gravure cylinder making process –chemical, electrochemical, electromechanical and electronic engraving 2.3 Flexographic plate making – rubber and photopolymer plates 2.4 Screen printing process – direct, direct-indirect, indirect and capillary 2.5. Introduction to Computer to Plate/Print/Press Technology	**15**	**10**
Group B			
Unit 3 **Printing Inks and Toners**	3.1 Nature of printing ink – visual characteristics, drying characteristics, adhesive nature, resistance properties 3.2 Raw materials of printing inks – pigments and dyestuffs, oils, solvents, resins, plasticisers, driers, waxes, surfactants, antioxidants and other additives 3.3 Classification of printing inks based on fluidity 3.4 Differences between the two classes of ink	**15**	**10**

	3.5 Lithographic inks, Flexographic inks, Gravure inks, Screen inks – general characteristics, ink formulation, ink drying mechanism 3.6 Inks for specific end-use application - paper, plastics, packaging, tin printing and metal decorating inks 3.7 Inks for Non-Impact Printing Technologies- electrophotography, inkjet, xerography, thermal 3.8 Physical properties of printing inks – length, tack, viscosity, pH 3.9 Use of press inkometer 3.10 Problems encountered with using ink of wrong length and tack 3.11 Rheological properties of printing inks – plastic, pseudoplastic, dilatant and thixotropic substances, visco-elastic fluids and viscoelasticity of printing inks, flow of non-newtonian inks 3.12 Ink related problems in offset, flexographic and gravure printing and their remedies 3.13 Toners for nonimpact printing		
Unit 4 **Colour Science**	4.1 Basic concept of light 4.2 Colour perception 4.3 Additive and subtractive colours 4.4 Elementary principles of colour reproduction 4.5 Attributes of colour – Hue, Saturation, Lightness 4.6 Tristimulus values 4.7 CIE Colour spaces – CIE XYZ, CIE L*a*b*, CIE LCH 4.8 Colour difference 4.9 Colour management- Calibration, Characterization, Conversion	**10**	**10**
Group C			
Unit 5 **Paper**	5.1 Raw materials for paper manufacture – Structures of Cellulose, Hemicellulose and Lignin 5.2 Paper manufacture - Wood Pulping (mechanical and chemical), Bleaching, Refining, Internal Sizing, Effect of fillers to improve printability of paper, Colouring, Fourdrinier paper machine, Pressing, Drying, External Sizing, Coating, Calendering, Supercalendering, Surface treatment of paper (paper reinforcement by polymer addition), Finishing (gloss and matte) 5.4 Structural properties of paper - Grain, Two-sidedness, Smoothness, Dimensional stability 5.5 Paper grain direction and its importance in folding and binding 5.6 Physical properties of paper - Basis weight, Paper caliper, Water absorbency, Ink receptivity, Surface smoothness, pH 5.7 Strength properties of paper - Surface strength, Tensile strength, Bursting strength 5.8 Optical properties of paper - Brightness, Whiteness, Opacity, Gloss, Metamerism 5.9 Resistance properties of paper – Pick resistance, Tear resistance, Resistance to water, acid and alkali 5.10 Paper runnability and Paper printability 5.11 Paper characteristics required for news paper printing 5.12 Paper characteristics required for package printing 5.13 Printing problems related to paper 5.14 Waste paper recycling	**10**	**10**
Unit 6 **Packaging Materials**	6.1 Definition of packaging 6.2 Materials used for packaging- paper and paper boards, metals (tin and aluminium), films, foils, polymers (LDPE, HDPE, PP, PS, PVC) 6.3 Properties of packaging materials and their application 6.3 Selection of packing materials	**5**	**5**

	6.4 Importance and role of waxing, varnishing, laminating, foiling 6.5 Laminates- double, triple 6.6 Testing methods for different packages		
Unit 7 Coatings and Adhesives	7.1 UV Coating 7.2 Adhesives – classification, properties, application	**5**	**5**

EXAMINATION SCHEME

a) Internal Examination Marks : 20
b) End Semester Examination Marks : 70
c) Assignment : 10
Full Marks = 100

End Semester Examination Scheme : Marks – 70

Group	Unit	Objective			
		To be set	To be answered	Marks per Qs	Total Marks
A	1&2	8	Any 20 Qs	1	20
B	3 & 4	8			
C	5-7	8			
			Subjective		
A	1&2	3	Any five Qs taking at least one from each group	10	5x10=50
B	3 & 4	3			
C	5-7	3			

Note 1 : Teacher's assessment will be based on performance on given assignments
Note 2 : Assignments may be given on all the topics covered in the syllabus.

Text Book:

Name of Author	**Title of the Book**	**Name of the Publisher**
Tulika Das	Chemistry in Printing, 2nd Edition	Barnana Prakashani, 2011

Reference Books:

Name of Author	**Title of the Book**	**Name of the Publisher**
Tulika Das	Chemistry of Photography	Barnana Prakashani, 2009
P. Kipphan	Handbook of Print Media	Springer, 2002
GATF Staff	Solving Offset Ink Problems	GATF, 1998
Bishwanath Chakravarty	A Hand Book for Printing and Packaging	Galgotia Publications Pvt. Ltd, 1997
N.R.Elred & T. Scarlet	What the Printer should know about Ink	GATF, 1995
P. Green	Understanding Digital Colour	GATF, 1995
N.R.Elred & T. Scarlet	Chemistry for the Graphic Arts	GATF, 1992
R. Blair, Editor-in-Chief, M.D. Thomas Ed	The Lithographer's Manual	GATF, Inc., 1988
R.H. Leach and R.J. Pierce Ed	The Printing Ink Mannual, 5th Edition	Kluer Academic publisher
A. Sharma	Understanding Colour Management	Thompson Dalmar Learning

SYLLABUS FOR PRESS WORK - II

Name of the Course: Diploma in Printing Technology	
Course Code:	Semester: Fourth
Duration: 16 Weeks	Maximum Marks: 100
Teaching Scheme	Examination Scheme
Theory: **3** hrs/week	Internal Examination: 20
Tutorial: Nil	Assignment & Attendance: 10
Practical: 4 hrs/week	End Semester Exam:70
Credit: 3	

Aim:

Getting the output through a printing machine is the most important operation for completing the print production. This subject known as Presswork - II is one of the key subject to make a clear and sound knowledge in some of the major print production systems and supplies. This will enable the students to make judgement about the aspect of printing, particularly the selection of a particular process to choose for a specific print production.

Objective: The students will be able to

(i) understand the basic and clear classification of all kinds of printing processes;
(ii) understand the details of Gravure, Flexo, Dry Offset/Letterset, Small Offset (Xerox offset) printing machines, their applications and uses, characteristics and identifications of their products- merits and demerits;
(iii) understand the mechanism of various letterpress, offset (wet & dry), letterset, flexo, gravure & screen printing machines, and sheet-fed & web fed machines, their constructional differences in the printing unit and operational features;
(iv) understand the quality control aspects;
(v) appreciate the print recognition & trouble shooting aspects.

Pre-Requisite: Elementary knowledge of Basic Printing & Production, Press Work I

Contents:

Group-A		Hrs/unit	Marks
Unit 1	**1.0 Intaglio/Gravure printing** 1.1 Features, classification of various presses 1.2 Various unwinding and rewinding units, printing units, cylinder setting, impression cylinder 1.3 Inking arrangements, doctor blade setting. 1.4 Carbon Tissue, Sensitization, Use of Cross-line negative, Continuous tone positive, Developing, Etching – related chemistry 1.5 Epoxy resin method 1.6 Electronic Engraving	10	10
Unit 2	**2.0 Materials (relational aspects)** 2.1 Printing rollers-soft and hard rollers- types and their uses and applications 2.2 Duplicating plates – electro and stereo – their use and applications 2.3 Paper & Polymer - Characteristics and Qualities 2.4 Gravure Ink – constituents & related problems 2.5 Flexography Stereo making – Rubber plate – Photopolymer plate making, purpose of double exposure – related chemistry & devices used 2.6 Flexo ink – constituents & related problems	10	10

Group B **Unit 3** **Unit 4**	**3.0 Comparisons of important print processes** 3.1 Dry offset vs. waterless offset 3.2 Flexography vs. gravure 3.3 Sheet fed m/c vs. web fed machines 3.4 Letterpress vs. Flexography **4.0 Quality control aspects** 4.1 Pre registering system 4.2 Control on static electricity 4.3 Progressive proofs, Printing sequence, Printing problems and remedies	05 05	10 10
Group C **Unit 5** **Unit 6** **Unit 7**	**5.0 Print Recognition** 5.1 Special characteristics of Letterpress printing. 5.2 Special characteristics of Flexography printing. 5.3 Special characteristics of Gravure printing. 5.4 Ink characteristics **6.0 Troubleshooting** 6.1 Letterpress Printing Problems 6.2 Flexographic Printing Problems 6.3 Gravure Printing Problems **7.0 Small Offset** Two or three cylinder Small (Xerox) Offset – Construction & working principle	04 10 04	10 10 10
		48	70

Name of Author	Title of the Book		Name of the Publisher
1. CARTWRIGHT, H.M.& MACKAY	ROTOGRAVURE		
2. BANKS	PAPER IN PRINTING PROCESS		
3. GANDERTON	MACHINE PROBLEMS		
4. DONNAC. MULVIHILL	FLEXOGRAPHY PRIMER		

CONTACT PERIODS: 48 **INTERNAL ASSESSMENT: 06** **TOTAL PERIODS: 54**

Examination Scheme:

a) Internal Examination Marks: 20
b) End Semester Examination Marks: 70
c) Attendance + Assessment + Interaction : 10

Full Marks: 100

End Semester Examination Marks: 70

Group	**Unit**		**Objective**	**Marks/Qs**	**Total**
					Marks
		To be set	**To be answered**		
A	1 & 2	10	Any 20Qs	01	20
B	3 & 4	05	-		
C	5, 6 & 7	10	-		
Group	**Unit**		**Subjective**	**Marks/Qs**	**Total**
					Marks
A	1& 2	04	Any five Qs	10	05x10
			Taking atleast		=50
			One from each		
			Group		
B	3 & 4	03	-	-	-
C	5, 6 & 7	03	-	-	-

Note 1: Teachers' Assessment will be based on performance on given assignments.

Note 2: Assignments may be given on all the topics covered in the syllabus.

SYLLABUS FOR DIGITAL PREPRESS

Name of the Course: Diploma in Printing Technology	
Course Code:	Semester: Fourth
Duration: 16 Weeks	Maximum Marks: 100
Teaching Scheme	Examination Scheme
Theory: **3** hrs/week	Internal Examination: 20
Tutorial: **1** hr/week	Assignment & Attendance: 10
Practical: **4** hrs/week	End Semester Exam:70
Credit: 3	

Aim:

To most of the people working in the Graphic Arts Industry in this country, use of digital pre-press is still in its infancy. On the other hand, throughout the world its use has become rampant and all pervading. Naturally, this has caught our workers unaware and unprepared. In order to keep pace with this change taking place in the international field of Printing & Graphic Arts Technology, the students of these courses need to be exposed in the fundamentals of Digital Prepress followed by the wide application of computers particularly in digital printing, pre-press and Reproduction Technique.

Objective: The students will be able to

(i) understand the fundamentals of Digital Prepress;
(ii) understand the fundamentals of Digital Imaging;
(iii) appreciate the necessity Digital Image Reproduction & Image editing software;
(iv) appreciate the necessity of Vector based illustrating Software;
(v) appreciate the necessity of page layout integrating Software;
(vi) understand the concept of Resolution for Scanning of Line Art, Grey Scale, RGB & CMYK image;
(vii) understand the print mechanism and image formation method.

Pre-Requisite: Elementary knowledge of Basic Printing & Pre-Press Repro Technique

Contents:

Group-A		Hrs/unit	Marks
Unit 1	**Fundamentals of Digital Prepress** 1.1 Conceptualising, Designing, Conventional Prepress vs. Digital Prepress, Typesetting and Image Acquisition, Paste up, Stripping and Imposition, Proofing and Revising, Printing, Making the Transformation, the goal of the Digital Prepress Professional. 1.2 Requirement of Hardware and Software.	10	10
Unit 2	**Fundamentals of Digital Imaging** 1.3 Digital Imaging Process 1.4 Pixels, Pixel size and Printing, Bit Depth, Halftones, Resolution. 1.5 Concept of Digital image – bitmap and object oriented digital image.	15	15

Group-B **Unit 3** **Unit 4**	**Digital Image Reproduction & Image Editing Software (pixel based)** 1.6 Basic idea of Image processing or manipulation, Image File Formats. 1.7 Study of Scanner. 1.8 Application of Image editing software, tools, layers, filters, image enhancement & manipulation. **Introduction to Illustrating software (object oriented)** 1.9 Fundamental Concepts 1.10 Exploring the work area. 1.11 Manipulating available options. 1.12 Using Printers' software.	10	10
Group-C			
Unit 5	**Introduction Page Layout Software Program** 1.13 Basic Concepts 1.14 Designing a Page layout and Constructing Master Pages. 1.15 Manipulating available options. 1.16 Constructing a Publication. 1.17 Using Printers' software.	05	05
Unit 6	**Scanning Line Art, Grey Scale, RGB and CMYK Image** 1.18 Concept of Resolution 1.19 Calculating Input & Output Resolution 1.20 Half-toning Factor	12	15
Unit 7	**Printing Mechanism and Image Formation method** 1.21 Printers – Dot matrix, Laser, Inkjet. 1.22 Image setter – Capstan & Drum type. 1.23 Platesetter–Flat Bed, Internal Drum & External Drum	12	15

Name of Author	Title of the Book		Name of the Publisher
1. Phil Green GATF	Understanding Digital Colour		GATF
2. Deborah L. Stevenson GATF	Handbook of Printing Processes		GATF
3. Howard M. Fenton	On – Demand Printing		GATF
4. GATF	Electronic Pre-press Essentials		GATF
5. Dr. Richard M. Adams II & Frank Romano GATF	Computer – to- plate : Automating the Printing Industry		GATF

6. GATF Hand Book of Print Media 7. Auton and Peter Kammermeier, The Bath Press, Avon 8. Frank J. Romano 9.Donnie O' Quinn & Matt Leclair, Hayden Books	Hand Book of Print Media Scanning & Printing Pocket Guide to Digital Pre-press Digital Pre-press Complete		GATF GATF The Bath Press, Avon Hayden Books

CONTACT PERIODS: 64 **INTERNAL ASSESSMENT: 06** **TOTAL PERIODS: 70**

Examination Scheme:

a) Internal Examination Marks: 20
b) End Semester Examination Marks: 70
c) Attendance + Assessment + Interaction : 10
Full Marks: 100

End Semester Examination Marks: 70

Group	**Unit**		**Objective**	**Marks/Qs**	**Total Marks**
		To be set	**To be answered**		
A	1, 2	12	Any 20Qs	01	20
B	3 & 4	06	-		
C	5, 6 & 7	07	-		
Group	**Unit**		**Subjective**	**Marks/Qs**	**Total Marks**
A	1, 2	04	Any five Qs Taking atleast One from each Group	10	05x10 =50
B	3 & 4	03	-	-	-
C	5, 6 & 7	03	-	-	-

Note 1: Teachers' Assessment will be based on performance on given assignments.

Note 2: Assignments may be given on all the topics covered in the syllabus.

SYLLABUS FOR PRINT DESIGN

Name of the Course: Diploma in Printing Technology	
Course Code:	Semester: Fourth
Duration: 16 Weeks	Maximum Marks: 100
Teaching Scheme	Examination Scheme
Theory: **3** hrs/week	Internal Examination: 20
Tutorial: Nil	Assignment & Attendance: 10
Practical: **4** hrs/week	End Semester Exam:70
Credit: 3	

Aim:

The graphic arts industry has witnessed fundamental change in recent years with the introduction of computer and other applied sciences. The aim of this subject is to delineate the way things have been done, the way they can now be done, and the way they may be done in the future. This is in order to show the students of Print Design how to enhance and efficiently use his or her creative talent with the most appropriate applications of modern technology.

Objective: The students will be able to

(i) understand the basic concept of design for printing.
(ii) understand the Design element & principles.
(iii) understand the basic colour elements.
(iv) appreciate the purpose and advantages of layout preparation for printing.
(v) appreciate what has type & typography to do in design
(vi) understand the function of an advertising agency.
(vii) understand different types of originals used in print design.
(viii) understand the format & design factors of Business forms for print production.
(ix) appreciate the necessity of planning for print production.

Pre-Requisite: Elementary knowledge of Basic Printing & Pre-Press Repro Technique

Contents:

Group-A		Hrs/unit	Marks
Unit 1	**1.0 Concept of Design for printing** 1.1 What does the design process involve? 1.2 Who are the Designers connected with printing? Role of the Print Designer. 1.3 Overall concept of Industrial Design in relation to printing design. 1.4 General concept of Design in brief	05	10
Unit 2	**2.0 Design Elements & principles of Design** 2.1 Basic Elements - Line, Direction, Shape, Texture, Volume, Scale & Color 2.2 Principles or Laws of Design - Unity, Variety, Balance, Emphasis, Harmony, Scale, Proportion, Rhythm.	10	15

Unit 3 **Group-B** **Unit 4**	**3.0 Colour Elements** 3.1 Colour theory, Colour circles - Terms used to describe relationship between colours, Complimentary, analogous, split - complimentary colours. 3.2 Selection of colour in terms of prints production. 3.3 Emotional appeal of colour. 3.4 Difference between light colour & pigmentary colour. **4.0 Layout Preparation** 4.1 Purpose and advantages of layout 4.2 Materials, equipment and techniques used in the preparation of layout, Artwork and simple dummy preparation 4.3 How to train our mind to visualize. 4.4 Role of photography and printing in visual communication	10 05	10
Unit 5 **Unit 6**	**5.0 Typography** 5.1 What has type & typography to do in design. Concept of type family. 5.2 Selection of type faces - Book type & typography to do in design. Choosing type face suitable to the subject or product, relation between type face and printing processes, type face and paper surfaces, Legibility and readability, History of alphabet, printers measures. 5.3 Typesetting methods, type styles, choosing a font, line length and type size line spacing alignment issues. **6.0 Advertising Agency** 6.1 Function of an advertising agency. 6.2 Role of Accounts Executive, Visualiser or Art Director, & Copywriter.	05	05
Group C **Unit 7**	**7.0 Different types of Originals** 7.1 Conception of different types of originals for illustration and reproduction 7.2 Continuous tone copies, line drawings, black & white and colour copy, and transparency.	03	05

Unit 8 **Unit 9**	**8.0 Format & Design Factors of Business Forms** 8.1 Stock Form & Custom-made-Form 8.2 Commercial Stationery (Computer Stationery) **9.0 Planning for production** 9.1 Selection and co-ordination of production processes within the economic terms of jobs specifications 9.2 Assembly of mechanical art, Overlays 9.3 Digital presentation of advertising art 9.4 Assembly of mechanical art 9.5 Possibilities and limitation of binding, finishing and ancillary processes as they affect design.	05 05	15 10

Name of Author	Title of the Book		Name of the Publisher
1. S K Luthra 2. Vincent Steer 3. E D Lopatecki 4. Martin Solomon 5. J Nath 5. RichardM Schlemmer 6. Bishwanath Chakraborty	Applied Art Handbook Printing Design & Layout Advertising Layout & Typography The Art of Typography Advertising Art & Production Handbook of Advertising Art Production A Handbook for Printing and Packaging Technology -		

CONTACT PERIODS: 48 **INTERNAL ASSESSMENT: 06** **TOTAL PERIODS: 54**

Examination Scheme:

a) Internal Examination Marks: 20
b) End Semester Examination Marks: 70
c) Attendance + Assessment + Interaction : 10
Full Marks: 100

End Semester Examination Marks: 70

Group	Unit		Objective	Marks/Qs	Total Marks
		To be set	**To be answered**		
A	1, 2 &3	12	Any 20Qs	01	20
B	4, 5 &6	06	-		
C	7, 8 & 9	07	-		
Group	**Unit**		**Subjective**	**Marks/Qs**	**Total Marks**
A	1, 2	04	Any five Qs	10	05x10
			Taking atleast		=50
			One from each		
			Group		
B	3 & 4	03	-	-	-
C	5, 6 & 7	03	-	-	-

Note 1: Teachers' Assessment will be based on performance on given assignments.

Note 2: Assignments may be given on all the topics covered in the syllabus.

Syllabus for: Print Design Lab

Name of the Course: Diploma in Printing Technology			
Course Code:		**Semester: Fourth**	
Duration: : Seventeen weeks/Semester		**Maximum Marks: 100**	
Teaching Scheme		**Examination Scheme: Continuous Evaluation**	
Theory: Nil hrs./week		Mid Semester Exam.: Nil	
Tutorial: Nil hrs./week		Attendance & Teacher's Assessment : 50 Marks	
Practical: 4 hrs./week		End Semester Exam:50Marks	
Credit: 3			
Aim: To impart practical knowledge in Work Shop/Lab related with course of study.			
Objective: Student will able to			
Sl. No.			
1.	Know basic design for printing		
2.	Read and interpret Print Production Workflow.		
3.	Identify, select, & use of various tools, equipment & software.		
4.	Operate, control different machines & equipment.		
5.	Inspect the job for specified dimensions.		
6.	Produce jobs as per specified dimensions.		
7.	Adopt safety practices (tools, jobs & personal) while working on various machines.		
8.	Acquaint with the chronological operational processes involving in the jobs.		
9.	Care & maintenance of the tools & machines.		
Pre-Requisite:			
Sl. No.			
1.	Elementary knowledge of Prepress Printing		
2.	Color Technology		
Contents: **CONTINUOUS INTERNAL ASSESSMENT OF 50 MARKS IS TO BE CARRIED OUT BY THE TEACHERS THROUGHOUT THE SEMESTER WHERE MARKS ALLOTTED FOR ASSESSMENT OF SESSIONAL WORK UNDERTAKEN IN 4TH SEMESTER IS 25. DISTRIBUTION OF MARKS IN 4TH SEMESTER: PERFORMANCE OF JOB– 10; LABORATORY NOTEBOOK – 10, ATTENDANCE – 05.** **EXTERNAL ASSESSMENT (END SEMESTER EXAM) OF 50 MARKS** SHALL BE HELD AT THE END OF THE FOURTH SEMESTER ON THE ENTIRE SYLLABI. ONE JOB PER STUDENT FROM ANY ONE OF THE JOBS DONE IS TO BE PERFORMED. JOB IS TO BE SET BY LOTTERY SYSTEM. **DISTRIBUTION OF MARKS: ON SPOT JOB – 20; VIVA-VOCE – 30** **Unit: 1,2,3,4,5,6,7,8,9,10&11** **TOTAL PERIODS: 64 (16 Weeks) + 4 (1 Week) = 68 (17 Weeks)** **Practical Class – 64 hrs/16 weeks & Evaluation 4 hrs/1 week**		Hrs./Unit 05/Unit 1 08/Unit 2 08/Unit 3 05/Unit 4 08/Unit 5 05/Unit 6 05/Unit7 05/Unit8 05/Unit9 05/Unit10 05/Unit11	Marks 10 10 10 10 10 05 10 10 10 10 05
		64 Hrs	100

Syllabus for: Print Design Lab

Unit:

1. Practicing the techniques of lettering by tracing of different typeface characters — Study of different typefaces & family.
2. Layout for letterheads, visiting cards, greeting cards, invitation, certificates.
3. Designing of logo, caption, monograms and trademarks enlargement & reduction geometrically.
4. Study of colour and mixing of colours, two/three-colour combinations, colour circle, Complementary colour, Double-split Complementary colour, Analogous colour & its harmony.
5. Layout for typographical design of book cover, title pages, half title page & book jacket, Page layout with margin.
6. Tools of the layout man: Care & handling.
7. Layout for folders, calendars posters and advertisement.
8. Study of layout and artwork. Understanding fully the concept of making printing design.
9. Study of layout for designing computer stationery/continuous stationery including MICR Cheques.
10. Practice on scanning & computer assisted composition.
11. Collection and study of printed materials.

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Syllabus for: Presswork Workshop II

Name of the Course: Diploma in Printing Technology			
Course Code:		**Semester: Fourth**	
Duration: : Seventeen weeks/Semester		**Maximum Marks: 100**	
Teaching Scheme		**Examination Scheme: Continuous Evaluation**	
Theory: Nil hrs./week		Mid Semester Exam.: Nil	
Tutorial: Nil hrs./week		Attendance & Teacher's Assessment : 50 Marks	
Practical: 4 hrs./week		End Semester Exam: 50Marks	
Credit: 3			
Aim: To impart practical knowledge in Work Shop/Lab related with course of study.			
Objective: Student will able to			
Sl. No.			
1.	Know basic Press Workshop Technology I & Processes.		
2.	Read and interpret Print Production Workflow.		
3.	Identify, select, & use of various tools, equipment & software.		
4.	Operate, control different machines & equipment.		
5.	Inspect the job for specified dimensions.		
6.	Produce jobs as per specified dimensions.		
7.	Adopt safety practices (tools, jobs & personal) while working on various machines.		
8.	Acquaint with the chronological operational processes involving in the jobs.		
9.	Care & maintenance of the tools & machines.		
Pre-Requisite:			
Sl. No.			
1.	Elementary knowledge of Presswork Printing		
2.	Metrological aspects		
Contents: **CONTINUOUS INTERNAL ASSESSMENT OF 50 MARKS IS TO BE CARRIED OUT BY THE TEACHERS THROUGHOUT THE SEMESTER WHERE MARKS ALLOTTED FOR ASSESSMENT OF SESSIONAL WORK UNDERTAKEN IN 4TH SEMESTER IS 25. DISTRIBUTION OF MARKS IN 4TH SEMESTER: PERFORMANCE OF JOB– 05; LABORATORY NOTEBOOK – 10, ATTENDANCE – 10.** **EXTERNAL ASSESSMENT (END SEMESTER EXAM) OF 50 MARKS** SHALL BE HELD AT THE END OF THE FOURTH SEMESTER ON THE ENTIRE SYLLABI. ONE JOB PER STUDENT FROM ANY ONE OF THE JOBS DONE IS TO BE PERFORMED. JOB IS TO BE SET BY LOTTERY SYSTEM. **DISTRIBUTION OF MARKS: ON SPOT JOB – 20; VIVA-VOCE – 30** **Unit: 1,2,3, & 4** **TOTAL PERIODS: 64 (16 Weeks) + 4(1 Week) = 68 (17 Weeks)** **Practical Class – 64 hrs/16 weeks & Evaluation 4 hrs/1 week**		Hrs./Unit 12/Unit 1 20/Unit 2 20/Unit 3 12/Unit 4	Marks 20 30 30 20
		64 Hrs	100

Syllabus for: Presswork Workshop II

Unit:

1. Shop talk, Demonstration and Practice on Web-fed Machines.
2. Working on Single Colour Flexography Machine –

   Placing the web on feeding section, setting the web path, setting the inking system, operating the machine to print single colour job on various paper and synthetic substrate,
3. Working on single colour Gravure Machine -

   Placing the web on feeding section, setting the web path, setting the inking system, operating the machine to print single colour job on various paper and synthetic substrate
4. Familiarisation to the Plano graphic process &
   Two cylinder Small Offset machine.

Syllabus for: Digital Prepress Lab

Name of the Course: Diploma in Printing Technology			
Course Code:		**Semester: Fourth**	
Duration: : Seventeen weeks/Semester		**Maximum Marks: 100**	
Teaching Scheme		**Examination Scheme: Continuous Evaluation**	
Theory: Nil hrs./week		Mid Semester Exam.: Nil	
Tutorial: Nil hrs./week		Attendance & Teacher's Assessment : 50 Marks	
Practical: 4 hrs./week		End Semester Exam:50Marks	
Credit: 3			
Aim: To impart practical knowledge in Work Shop/Lab related with course of study.			
Objective: Student will able to			
Sl. No.			
1.	Know basic Digital Prepress Technology & Processes.		
2.	Read and interpret Digital Print Production Workflow.		
3.	Identify, select, & use of various tools, equipment & software.		
4.	Operate, control different machines & equipment.		
5.	Inspect the job for specified dimensions.		
6.	Produce jobs as per specified dimensions.		
7.	Adopt safety practices (tools, jobs & personal) while working on various machines.		
8.	Acquaint with the chronological operational processes involving in the jobs.		
9.	Care & maintenance of the tools & machines.		
Pre-Requisite:			
Sl. No.			
1.	Elementary knowledge of Prepress Printing		
2.	Color Technology		
Contents: **CONTINUOUS INTERNAL ASSESSMENT OF 50 MARKS IS TO BE CARRIED OUT BY THE TEACHERS THROUGHOUT THE SEMESTER WHERE MARKS ALLOTTED FOR ASSESSMENT OF SESSIONAL WORK UNDERTAKEN IN 4TH SEMESTER IS 25. DISTRIBUTION OF MARKS IN 4TH SEMESTER: PERFORMANCE OF JOB– 10; LABORATORY NOTEBOOK – 10, ATTENDANCE – 05.** **EXTERNAL ASSESSMENT (END SEMESTER EXAM) OF 50 MARKS** SHALL BE HELD AT THE END OF THE FOURTH SEMESTER ON THE ENTIRE SYLLABI. ONE JOB PER STUDENT FROM ANY ONE OF THE JOBS DONE IS TO BE PERFORMED. JOB IS TO BE SET BY LOTTERY SYSTEM. **DISTRIBUTION OF MARKS: ON SPOT JOB – 20; VIVA-VOCE – 30** **Unit: 1,2,3,4,5 & 6** **TOTAL PERIODS: 64 (16 Weeks) + 4 (1 Week) = 68 (17 Weeks)** **Practical Class – 64 hrs/16 weeks & Evaluation 4 hrs/1 week**		Hrs./Unit 20/Unit 1 20/Unit 2 05/Unit 3 05/Unit 4 10/Unit 5 04/Unit 6	Marks 25 25 10 10 20 10
		64 Hrs	100

Syllabus for: Digital Prepress Lab

Unit:

1.0 WINDOWS – ASSIGNMENT

1.1 Acquaintance with the Basic elements of Windows – Parts of Window, Types of Window, Types of Icons.

1.2 Basic Mouse Technique – Basic Keyboard Technique, Choosing & Selecting items, Choosing Commands from Menus, Using the Control Menu Commands.

2.0 SCANNING – ASSIGNMENT

2.1 Capturing image from Reflection copy, Negative & Transparency.
2.2 Adjusting the scanning factors.
2.3 Changing of Mode and colour correction.
2.4 Use of filters.
2.5 Saving the file under specific file format.
2.6 Importing different files to the Page Layout Graphic Software.

3.0 PIXEL BASED GRAPHIC SOFTWARE – ASSIGNMENT

3.1 Create a new file, manipulate using different filters, and save it under specific file format.
3.2 Export/Import files through different filters, close & exit.

4.0 VECTOR BASED ILLUSTRATING SOFTWARE – ASSIGNMENT

4.1 Creating a new drawing, using options save it under specific file format.
4.2 Export/Import files through different filters, close & exit.

5.0 PAGE LAYOUT GRAPHIC SOFTWARE – ASSIGNMENT

5.1 Practice cursor movement, create file, composing text, and manipulate file (save, cut, copy, paste, delete & print).
5.2 Document set up, page size, margin, select, draw lines / boxes etc., merging text & graphics.
5.3 Justification, alignment, changes of type font/size/style etc.

6.0 IMAGE SETTER/PLATESETTER & AUTO FILM PROCESSOR – ASSIGNMENT

6.1 Study of Image setter/Platesetter, RIP, Calibration of IS Software.
6.2 Study of Image recording, processing & their functions.

Syllabus for: Professional Practice II(Typesetting & Composition)

Name of the Course: Diploma in Printing Technology			
Course Code:		**Semester: Fourth**	
Duration: : Eight weeks/Semester		**Maximum Marks: 50**	
Teaching Scheme		**Examination Scheme: Continuous Evaluation**	
Theory: Nil hrs./week		Mid Semester Exam.: Nil	
Tutorial: Nil hrs./week		Attendance & Teacher's Assessment : 25 Marks	
Practical: 3 hrs./week		End Semester Exam:25 Marks	
Credit: 2			
Aim: To impart practical knowledge in Work Shop/Lab related with course of study.			
Objective: Student will able to			
Sl. No.			
1.	Know basic Desk top Publishing Processes.		
2.	Read and interpret Print Production Planning.		
3.	Identify, select, & use of various tools, equipment & software.		
4.	Operate, control different machines & equipment.		
5.	Inspect the job for specified dimensions.		
6.	Produce jobs as per specified dimensions.		
7.	Adopt safety practices (tools, jobs & personal) while working on various machines.		
8.	Acquaint with the chronological operational processes involving in the jobs.		
9.	Care & maintenance of the tools & machines.		
Pre-Requisite:			
Sl. No.			
1.	Elementary knowledge of Typography & Composition & Basic Printing		
2.	Type & typography , paper sizes		
Contents: **CONTINUOUS INTERNAL ASSESSMENT OF 25 MARKS IS TO BE CARRIED OUT BY THE TEACHERS THROUGHOUT THE SEMESTER WHERE MARKS ALLOTTED FOR ASSESSMENT OF SESSIONAL WORK UNDERTAKEN IN EACH SEMESTER IS 25. DISTRIBUTION OF MARKS IN 4TH SEMESTER: PERFORMANCE OF JOB– 10; LABORATORY NOTEBOOK – 10, & ATTENDANCE – 05.** **EXTERNAL ASSESSMENT (END SEMESTER EXAM) OF 25 MARKS** SHALL BE HELD AT THE END OF THE THIRD SEMESTER ON THE ENTIRE SYLLABI OF . ONE JOB PER STUDENT FROM ANY ONE OF THE JOBS DONE IS TO BE PERFORMED. JOB IS TO BE SET BY LOTTERY SYSTEM. **DISTRIBUTION OF MARKS: ON SPOT JOB – 10; VIVA-VOCE – 15** **Unit: 1,2,3 &4** **TOTAL PERIODS: 24 (8 Weeks) + 3 (1 Week) = 27 (9 Weeks)** **Practical Class – 24 hrs/8 weeks & Evaluation 3 hrs/1 week**		Hrs./Unit 4/Unit 1 4/Unit 2 4/Unit 3 4/Unit 4 4/Unit5 4/Unit6	Marks 10 10 10 10 05 05
		24 Hrs	50

Syllabus for: Professional Practice II(Typesetting & Composition)

PRACTICE ON DESK TOP PUBLISHING SYSTEM

UNIT:

1. Acquaintance with different application softwares – Adobe PageMaker / CorelDRAW / Adobe Photoshop / InDesign
2. Solid text/composition paragraph
3. Setting up a new page with orientation options (tall/wide)
4. Change of font, point size, style, double sided/facing pages
5. Tab setting, pagination, column setting
6. Acquiring image from other files photo CD/scanner — Printing