

General Time Schedule
Periods Format
Semester - IV

Sl No	Course Code	Course Name	Teaching Scheme					Examination Scheme						
			instruction periods per week			Total Periods per semester	Credits	Continuous internal evaluation			Semester end examination			
			L	T	P			mid sem1	mid sem 2	internal evaluation	Max Marks Min Marks	total marks	Min marks for Passing including internal	
1	18PT-401F	Advanced Engg. Mathematics	3	1	0	60	3	20	20	20	40	14	100	35
2	18PT-402C	Printing Machine Maintenance	3	1	0	60	3	20	20	20	40	14	100	35
3	18PT-403C	Colour Separation and Management	3	1	0	60	3	20	20	20	40	14	100	35
4	18PT-404C	Modern Plate Making Methods	3	1	0	60	3	20	20	20	40	14	100	35
5	18PT-405C	Publishing Software	3	1	0	60	3	20	20	20	40	14	100	35
6	18PT-406P	Publishing Software Lab	1	0	2	45	1.5	20	20	20	40	20	100	50
7	18PT-407P	Colour Separation Lab	1	0	2	45	1.5	20	20	20	40	20	100	50
8	18PT-408P	Modern Plate Making methods Lab	1	0	2	45	1.5	20	20	20	40	20	100	50
9	18PT-409P	Print Quality Assurance Lab	1	0	2	45	1.5	20	20	20	40	20	100	50
10	18PT-410P	Advanced Communication Skills and Life Skills Lab	1	0	2	45	1.5	20	20	20	40	20	100	50
11		Academic activities	0	0	7	105	2.5	0	0	Rubrics		--	Grade-A/B/C/D	
			20	5	17	630	25	200	200	200	400	170	1000	425
	Activities: student performance is to be assessed through Rubrics													

All the above marks are in percentage weightage

ADVANCED ENGINEERING MATHEMATICS

Course Title : ADVANCED ENGINEERING MATHEMATICS	Course Code : 18PT-401F
SEMESTER : IV	Course Group : Foundation
Teaching Scheme (L : T : P) : 36 :24 : 0 (in Periods)	Credits : 3 Credits
Type of Course : Lecture + Assignments	Total Contact Periods : 60
CIE : 60 Marks	SEE : 40 Marks
Programmes : Common to all Engineering Diploma Programmes	

Pre requisites

This course requires the knowledge of Engg. Mathematics at Diploma first year level and Applied Engg. Mathematics at Diploma 3rd Semester level.

Course Outcomes:COs

At the end of the course, the student will have the ability to:

CO 1	Solve simple Homogeneous Differential Equations
CO 2	Solve simple Non-Homogeneous Differential Equations
CO 3	Express $f(x)$ as a Fourier series in the given interval
CO 4	Express $f(x)$ as a Fourier Half-Range Cosine series and Sine series
CO 5	Find Laplace transforms of simple functions
CO 6	Find Inverse Laplace transforms of simple functions and solve Linear Differential Equations using Laplace Transformations.

Course Contents:

Unit – I

Duration: 05 Periods (L:3.0 – T:2.0)

Homogeneous Differential equations with constant coefficients

Homogenous linear differential equations with constant coefficients of order two and higher with emphasis on second order.

Unit – II

Duration: 15 Periods (L: 9.0 – T:6.0)

Non-Homogeneous Differential equations with constant coefficients

Non-homogenous linear differential equations with constant coefficients of the form

$f(D)y = X$, where X is in the form k (a constant) , e^{ax} , $\sin ax$, $\cos ax$, x^n , ($n= 1,2,3$)

- Complimentary Function (CF), Particular Integral (PI) and General Solution (GS).

Unit-III

Duration: 10 Periods (L: 6.0 – T:4.0)

Fourier series

Orthogonality of trigonometric functions, Representation of a function in Fourier series over the interval $(c, c + 2\pi)$, Euler's formulae, sufficient conditions for existence of Fourier series for a function. Even, Odd functions and Fourier series over the

Interval $(0, 2\pi)$, $(-\pi, \pi)$.

Unit – IV

Duration: 05 Periods (L: 3.0 – T:2.0)

Fourier Half-range series

Representation of a function as Fourier Half-range Sine series and Cosine series over the interval $(0, \pi)$

Unit – V

Duration: 10 Periods (L: 6.0 – T:4.0)

Laplace Transformations:

Definition, sufficient conditions for existence of Laplace Transformation, Laplace Transformation of elementary functions, linearity property, Change of scale property, First shifting theorem, multiplication by t^n , division by t , Laplace Transform of derivatives and integrals, unit step function, Laplace Transform of unit step function, second shifting theorem

Unit – VI

Duration: 15 Periods (L: 9.0 – T:6.0)

Inverse Laplace transforms:

Inverse Laplace transforms- shifting theorems and change of scale property, multiplication by s^n and division by s in Inverse Laplace Transform using partial fractions in convolution theorem (no proof) in application of Laplace Transformations to solve ordinary differential equations of second order with initial conditions.

References

1. Higher Engineering Mathematics, B.S.Grewal .
2. Laplace Transforms - Murray R. Spiegel .
3. Ordinary Differential Equations in R. S. Aggarwal.
4. Fourier Series in A.R. Vasishtha and Gupta.

Suggested E-Learning references

1. www.freebookcentre.net/mathematics/introductory-mathematics-books.html
2. E-books: www.mathebook.net

Suggested Learning Outcomes

Unit-I

1.0 Solve Homogeneous linear differential equations with constant coefficients in engineering situations

- 1.1 Solve Differential equations of the type $(aD^2 + bD + c)y = 0$ when the roots of the auxiliary equation are real and different, real and repeated, complex.
- 1.2 Solve the higher order homogeneous differential equations with constant coefficients.

Unit-II

2.0 Solve Non Homogeneous linear differential equations with constant coefficients in engineering situations

- 2.1 Explain the concept of complementary function, particular Integral and general solution of a differential equation.
- 2.2 Solve n^{th} order differential equation of the type $f(D)y = X$ where $f(D)$ is a polynomial of n^{th} order and X is a function of the form $k, e^{ax}, \sin ax, \cos ax, x^n$.
- 2.3 Solve simple problems on the above types of 2.2

Unit-III

3.0 Understand the Fourier series expansion of functions

- 3.1 Define the orthogonality of functions in an interval.
- 3.2 Define Fourier series of a function on the interval $(c, c + 2\pi)$ and write the Euler's formulae for determining the Fourier coefficients.
- 3.3 Write sufficient conditions for the existence of Fourier series for a function.
- 3.4 Write Fourier series of simple functions in the range $(0, 2\pi), (-\pi, \pi)$.
- 3.5 Write Fourier series for even and odd functions in the interval $(-\pi, \pi)$.
- 3.6 Solve simple problems on even and odd functions in the interval $(-\pi, \pi)$

Unit- IV

4.0 Understand the Half – Range Fourier series expansion of functions

- 4.1 Write Half – Range Cosine series of a function in the range $(0, \pi)$.
- 4.2 Write Half – Range Sine series of a function in the range $(0, \pi)$.

- 4.3 Solve simple problems on Half i Range Cosine and Sine series over the interval $(0, \pi]$

Unit-V

5.0 Understand Laplace transforms

- 5.1 Write the definition of Laplace Transform and Laplace transform of standard functions.
- 5.2 Explain the sufficient conditions of existence of Laplace Transform.
- 5.3 Write the properties of Laplace Transform i Linearity property, First shifting theorem, Change of Scale property.
- 5.4 Solve simple problems using the above properties.

- 5.5 Write formulae for Laplace transform of $t^n f(t), \frac{f(t)}{t}, f^{(n)}(t), \int_0^t f(u) du$ in terms of Laplace transform of $f(t)$.

- 5.6 Solve simple problems using the above formulae.
- 5.7 Define unit step function and write the Laplace Transform of unit step function.
- 5.8 Write Second shifting theorem.

Unit-VI

6.0 Use Laplace transforms and Inverse Laplace transforms to solve differential equation in engineering problems

- 6.1 Define inverse Laplace Transform and write inverse Laplace Transforms of standard functions.
- 6.2 Solve simple problems on Inverse Laplace Transforms.
- 6.2 Write Shifting theorems and Change of scale property of inverse Laplace Transform.
- 6.3 Solve simple problems on 6.2
- 6.4 Write inverse Laplace Transforms corresponding to Laplace Transform of the functions

$$t^n f(t), \frac{f(t)}{t}, f^{(n)}(t), \int_0^t f(u) du$$

- 6.5 Solve simple problems on 6.4
- 6.6 Define convolution of two functions and state convolution theorem.
- 6.7 Solve simple problems on Convolution theorem.

6.8 Use Laplace and inverse Laplace Transforms to solve simple differential equations of Second order.

Suggested Student Activities

1. Student visits Library to refer Standard Books on Mathematics and collect related material.
2. Quiz
3. Group discussion
4. Surprise tests
5. Seminars
6. Home Assignments.

CO / PO - MAPPING

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	Mapped POs
CO1	3	2	2	1			1			3	1,2,3,4,7,10
CO2	3	2	2	1			1			3	1,2,3,4,7,10
CO3	3	2	2	1			1			3	1,2,3,4,7,10
CO4	3	2	2	1			1			3	1,2,3,4,7,10
CO5	3	2	2	1			1			3	1,2,3,4,7,10
CO6	3	2	2	1			1			3	1,2,3,4,7,10

MID SEM-I EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-I	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-II	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

MID SEM –II EXAM					
S.No	Unit Name	R	U	A	Remarks
1	Unit-III	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-IV	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

Semester End Examination

Sl No	Unit No.	Questions to be set for SEE				Remarks	
		R		U	A		
1	I	4	1		9(a)	13(a)	
2	II						
3	III		2		10(a)	14(a)	
4	IV						
5	V		3	5, 6	9(b)	13(b)	
					11(a)	15(a)	
				11(b)	15(b)		
6	VI		7,8	10(b)	14(b)		
				12(a)	16(a)		
				12(b)	16(b)		
Total Questions		8		8	8		

Legend:	Remembering (R)	1 Mark
	Understanding (U)	3 Marks
	Application (A)	5 Marks

STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TELANGANA

BOARD DIPLOMA EXAMINATIONS

MID SEM Ì I, MODEL PAPER, VI SEMESTER

ADVANCED ENGINEERING MATHEMATICS

TIME: 1: 00 Hours

Max. Marks: 20

PART-A

Instructions:

1. Answer **ALL** questions

04 X 01 = 04

2 Each question carries **ONE** mark

1. Write the General solution of $(aD^2 + bD + c)y = 0$, whose roots of auxiliary equation are real and distinct.
2. Find the roots of auxiliary equation of the differential equation $(\frac{d^2}{dx^2} + 2\frac{d}{dx} + 1)y = 0$
3. Find the Particular Integral of $\frac{d^2y}{dx^2} - 4\frac{dy}{dx} + 1y = e^{2x}$
4. Find the P.I of $\frac{d^2y}{dx^2} - 16y = \frac{1}{4}e^{4x}$

PART-B

Instructions:

1. Answer any **TWO** questions

02 X 03 = 06

2. Each question carries **THREE** marks5 a) Solve: $(D^2 + 3D - 54)y = 0$

Or

5 b) Solve : $(D^2 + 16)y = 0$ 6 a) Solve : $(\frac{d^2}{dx^2} + 4\frac{d}{dx} + 4)y = e^{2x}$

Or

6 b) Find P.I of $(\frac{d^2}{dx^2} + \frac{d}{dx})y = \sin 2x$

PART C

- Instructions:
1. Answer any **FOUR** questions
 2. Each question carries **FIVE** marks

04 X 05 = 20

7 a) Solve : $(D^3 - 2D^2 - 4D + 8)y = 0$

Or

7 b) Solve : $(D^3 - D^2 - D + 1)y = 0$

8 a) Solve : $(x^2 + 36)x = 2x^2$

Or

8 b). Solve : $(x^2 + 3x + 2)x = x^2$

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STATE BOARD OF TECHNICAL EDUCATION & TRAINING, TELANGANA

BOARD DIPLOMA EXAMINATIONS

MID SEM ì II, MODEL PAPER, VI SEMESTER

ADVANCED ENGINEERING MATHEMATICS

TIME: 1: 00 Hours

Max. Marks: 20

PART-A

Instructions:

1. Answer **ALL** questions

04 X 01 = 04

2 Each question carries **ONE** mark

1. Define periodic function and give one example
2. Define Fourier series of the function $f(x)$ in the interval $(0, 2\pi)$
3. Write Half-range sine series of $f(x)$ in the interval $(0, \pi)$
4. Find a_n for $f(x) = \pi^2$ in $0 < x < \pi$

PART-B

Instructions:

1. Answer any **TWO** questions

02 X 03 = 06

2. Each question carries **THREE** marks

5 a). If $f(x) = \pi^2$ in $(0, 2\pi)$, then find the value of a_n in Fourier series of $f(x)$

Or

5 b) if $f(x) = |x|$ in $(-\pi, \pi)$, then find the value of a_1 in Fourier series of $f(x)$

6 a). Find the value of a_n in half-range Cosine series for the function $f(x) = e^x$ in $(0, \pi)$

Or

6 b). Obtain the Fourier Half ì Range Sine series for $f(x) = \pi - x$ in $(0, \pi)$

PART C

Instructions: 1. Answer any **FOUR** questions

04 X 05 = 20

2. Each question carries **FIVE** marks

7 a). Obtain the Fourier series for $f(x) = x$ in the interval $0 < x < 2\pi$

Or

7 b). Find the Fourier series for $f(x) = \pi - x^2$ in the interval $(-\pi, \pi)$. Hence show that

$$\frac{\pi^2}{2^2} - \frac{\pi^2}{2^4} + \frac{\pi^2}{2^6} - \frac{\pi^2}{2^8} + \dots = \frac{\pi^2}{8}$$

8 a) Express $f(x) = \sqrt{x} - x^2$ as a half-range Sine series in $(0, \pi)$

Or

8 b). Find the half range cosine series for the function $f(x) = x^2$ in the interval $(0, \pi)$

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BOARD DIPLOMA EXAMINATION, (C-18)

MODEL PAPER

VI SEMESTER EXAMINATION

ADVANCED ENGINEERING MATHEMATICS

Time: 2 hours

[Total Marks: 40]

PART-A

Instructions:

1. Answer **ALL** questions

08 X 01 = 08

2 Each question carries **ONE** mark

1. Find the roots of auxiliary equation of the differential equation $y'' + 4y' + 4y = 0$.
2. Define Fourier Series for the function $f(x)$ in the interval $(c, c+2\pi)$
3. Find $\sin^2 x + \cos^2 x$
4. Find the Particular Integral of $y'' - 4y' + 1y = x^2$
5. Find $\sin^2 x + 5\sin^2 x \cos^2 x$
6. State the First Shifting theorem of Laplace Transforms.
7. Find $\int_0^1 x \frac{1}{x^2+1} + \frac{1}{x^2+1} dx$
8. Find $\int_0^1 x \frac{1}{x^2+1} dx$

PART-B

Instructions:

1. Answer any **FOUR** questions

04 X 03 = 12

2. Each question carries **THREE** marks

9. a) Solve: $(D^2 + D + 1)y = 4e^{3x}$

Or

- 9 b) Find $\sin^2 x \cos^2 x$

- 10 a) Find Half Range Sine Series of $f(x) = x$ in $[0, \pi]$

Or

- 10 b) Find $\int_0^1 x \frac{1}{x^2+1} dx$

- 11 a) If $L\{f(t)\} = \frac{1}{s^2 + 1}$, find $L\{f(3t)\}$

Or

11 b) Find $\int_0^{\infty} t^2 e^{-3t} \sin 3t \, dt$ using Laplace Transform Technique

12 a) Show that $\int_0^{\infty} \frac{t^2}{(t^2 + 2)^2} dt = \frac{\pi}{8}$

Or

12 b) Find $\int_0^{\infty} \frac{t}{(t^2 + 2)^2} dt$

PART C

Instructions: 1. Answer any **FOUR** questions

04 X 05 = 20

2. Each question carries **FIVE** marks

13. a) Solve : Solve: $(D^2 + D - 2)y = x + \sin x$

Or

14 b) Find $L\{t e^t \sin 3t\}$

14 a) Expand $f(x) = x^2$ as a Fourier series in the interval $(-\pi, \pi)$

Or

14 b) Find $\int_0^{\infty} \frac{t}{(t^2 + 2)^2} dt$

15 a) Find $\int_0^{\infty} \frac{t^2 e^{-3t} \sin 3t}{t} dt$

Or

15 b) Evaluate $L\left\{\int_0^t \frac{\sin t}{t} dt\right\}$

16 a) Find $\int_0^{\infty} \frac{t}{(t^2 + 2)^2} dt$ using Convolution theorem .

Or

16 b). Solve the differential equation $y'' - 2y' - 8y = \sin t$, when $y(0) = 3$, $y'(0) = 6$ by

Laplace Transform method.

SKILL UPGRADATION IN - ADVANCED ENGINEERING MATHEMATICS

ACTIVITY ASSESSMENT Steps

- 1. Mathematical concepts**
- 2. Procedure**
- 3. Explanation**
- 4. Working with others**
- 5. Mathematical errors**

ACTIVITIES

1. List out the methods to find complimentary function and explain to solve a homogeneous Linear Differential equations.
2. List out the methods to find Particular integrals and explain the solution of Non-homogeneous Linear Differential equations.
3. Write short notes on expansion of simple functions as a Fourier series.
- 4 . Prepare a presentation on Laplace Transforms of simple functions.
- 5 . Prepare a presentation on Inverse Laplace Transforms of simple functions.
6. List out different applications of Laplace Transforms.
7. Solve the Differential equation by applying Laplace Transformations.

CO / PO - MAPPING OF ACTIVITIES

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	2	1			1	3	2	3
CO2	3	2	2	1			1	3	2	3
CO3	3	2	2	1			1	3	2	3
CO4	3	2	2	1			1	3	2	3
CO5	3	2	2	1			1	3	2	3
CO6	3	2	2	1			1	3	2	3
CO7	3	2	2	1			1	3	2	3

Rubrics for Activity assessment

CATEGORY	4	3	2	1
Mathematical Concepts	Explanation shows complete understanding of the mathematical concepts used to solve the problem(s).	Explanation shows substantial understanding of the mathematical concepts used to solve the problem(s).	Explanation shows some understanding of the mathematical concepts needed to solve the problem(s).	Explanation shows very limited understanding of the underlying concepts needed to solve the problem(s) OR is not written.
Procedures	Typically, uses an efficient and effective procedure to solve the problem(s).	Typically, uses an effective procedure to solve the problem(s).	Sometimes uses an effective procedure to solve problems, but does not do it consistently.	Rarely uses an effective procedure to solve problems.
Explanation	Explanation is detailed and clear.	Explanation is clear.	Explanation is a little difficult to understand, but includes critical components.	Explanation is difficult to understand and is missing several components OR was not included.
Working with Others	Student was an engaged partner, listening to suggestions of others and working cooperatively throughout lesson.	Student was an engaged partner but had trouble listening to others and/or working cooperatively.	Student cooperated with others, but needed prompting to stay on-task.	Student did not work effectively with others.
Mathematical Errors	90-100% of the steps and solutions have no mathematical errors.	Almost all (85-89%) of the steps and solutions have no mathematical errors.	Most (75-84%) of the steps and solutions have no mathematical errors.	More than 75% of the steps and solutions have mathematical errors.

PASS SCORE: 2.5

STUDENT ASSESSMENT by RUBRICS

[illegible]

PRINTING MACHINE MAINTENANCE

Course Title : Printing Machine Maintenance	Course Code :18PT-402C
Semester : IV	Course Group : Core
Teaching Scheme in Hrs (L:T:P) : 36:24:0	Credits : 3
Type of Course : Lecture + Assignments	Total Contact Hours : 45hrs/60 pds
CIE : 60 Marks	SEE : 40 Marks

Pre requisites

This course requires the knowledge of machinery used in printing.

Course Outcomes

CO1 :	Purpose of Maintenance, Types of Maintenance Activities
CO2 :	Classify Machine Maintenance, Usage of Spare Parts
CO3 :	Categories of Spare Parts, Spare parts control
CO4 :	Identify foundation plan, Purpose of test charts, Factors effecting plant location
CO5 :	Classify Lubricants, Selection of Proper Lubricants
CO6 :	Usage of Electrical Controls, Classify Switches

Course Content

UNIT 1: BASICS OF MACHINE MAINTENANCE

Duration: 10 Pds

Definition of a plant and maintenance- objectives of maintenance management- importance of Maintenance - types of maintenance activities- Maintenance planning- problems, losses of poor maintenance- objectives and advantages of training.

UNIT 2: DIFFERENT TYPES OF MAINTENANCE

Duration:08 Pds

Types of machine maintenance- objectives and advantages of preventive maintenance
Problems with breakdown Maintenance, Objectives of Predictive Maintenance
Advantages with Machine Inspection

UNIT 3: SPARE PARTS MAINTENANCE

Duration: 07 Pds

Need of spare parts management- spare parts problems-Categorisation of spare parts-codification, standardization and inspection of spares- correct way to procure the spares- after sales service- obsolete spares control.

UNIT 4: MACHINE TESTING AND ERECTION

Duration: 10 Pds

Installation and operation of a machine- foundation plan- erection, leveling the machine, assembling the various units- testing and test charts- concept and factors governing plant location- actual site for a plant.

UNIT 5: MACHINE LUBRICATION AND REPLACEMENT

Duration: 15 Pds

Replacement of machinery and equipment- causes of machine replacement- procedure for establishing the need for replacement- Lubrication, their purposes and properties-Classification of lubricants-Selection of proper lubricants- methods of lubrication.

UNIT 6: ELECTRICAL CONTROL AND MACHINE ELEMENTS

Duration: 10 Pds

Methods of Drives-power transmission elements-Classification of Cams and Followers- relay and its characteristics-Classification of switches.

Specific Learning Outcomes

CO1: Purpose of Maintenance And Types Of Maintenance Activities

- 1.) Define a plant and Maintenance
- 2.) Objectives of Maintenance Management
- 3.) Know Importance of Maintenance
- 4.) Loses With Poor Maintenance
- 5.) Advantages with Training

CO2: Classify Machine Maintenance and Usage Of Spare Parts

- 1.) List out Machine Maintenance
- 2.) Explain the Types of Machine Maintenance
- 3.) Objectives of Preventive Maintenance
- 4.) Advantages of Preventive Maintenance

CO3: Categories Of Spares and Spare Parts Control

- 1.) Need of Spare Parts Management
- 2.) Spare Parts Problems
- 3.) Categories Of Spare Parts
- 4.) Need of Codification and Standardization
- 5.) Correct way to Procure Spares

CO4: Identify Foundation Plan, Purpose of Test Charts, Factors Effecting Plant Location

- 1.) The Installation And Operation of a Machine
- 2.) Know the Foundation Plan
- 3.) To Know Erection, Levelling and Assembling of Various Units
- 4.) Practice Testing And Test Chart
- 5.) Identify the Actual Site For a Plant

CO5: Classify Lubricants, Selection of Proper Lubricants

- 1.) Know the Need of Replacement of Machine and Equipment
- 2.) Explain Causes Of Machine Replacement
- 3.) Discuss The Need Of Lubrication
- 4.) Classify the Lubricants
- 5.) Select Proper Lubricants
- 6.) Explain the Methods Of Lubrication

CO6: Usage of Electrical Controls, Classify Switches

- 1.) Know the Methods Of Drives
- 2.) Explain Power Transmission Elements
- 3.) Classify cams and followers
- 4.) Define Relay and Its Characteristics
- 5.) Classify Switches
- 6.) Describe After Sales Service

Suggested Students Activities:

- 1.) Understand and make report on Machine Maintenance
- 2.) Compare the types of Machine Maintenance
- 3.) Distinguish between testing and test charts
- 4.) Understand and make report on Machine Erection And Foundation
- 5.) Differentiate types of Lubricants
- 6.) Usage of Different Electrical Controls

Recommended Books

1. Shirley, Mechanical Engineering Design, McCrawhill
2. Dobrovalsky et al., "Machine Elements". MIR Publications
3. Lithoprinting Ian Faux, Blueprint Publications
4. H.P. Garg, Industrial maintenance, S. Chand & Company Ltd

E-Learning Links:

- 1.) Rees, Fran. [Johannes Gutenberg: Inventor of the Printing Press](#)
- 2.) [Thomas Franklin Carter](#), The Invention of Printing in China and its Spread Westward, The Ronald Press, NY 2nd ed. 1955, pp. 176-178
- 3.) Kipphan, Helmut (2001). [Handbook of print media: technologies and production methods](#) (Illustrated ed.). Springer. pp. 130-144. [ISBN 3-540-67326-1](#).
- 4.) Kipphan, Helmut (2001). [Handbook of print media: technologies and production methods](#) (Illustrated ed.). Springer. pp. 48-52. [ISBN 3-540-67326-1](#).

CO-PO Mapping Matrix

COURSE OUT COME		CL	Linked PO	Teaching Hrs
CO1	Purpose of Maintenance, Types of Maintenance Activities	R/U/A	1,2,4,10	10
CO2	Classify Machine Maintenance, Usage of Spare Parts	R/U/A	2, 3, 4	08
CO3	Categories of Spare Parts, Spare Parts Control	R/U/A	1,2,3	07
CO4	Identify Foundation Plan, Purpose of Test Charts, Factors Effecting Plant Location	R/U/A	1,2, 3,	10
CO5	Classify Lubricants, Selection of Proper Lubricants	R/U/A	1, 2, 4, 8	15
CO6	Usage of Electrical Controls, Classify Switches	U/A	1, 2,7,8	10

MID SEM-I EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-I	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-II	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

MID SEM –II EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-III	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-IV	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

Semester End Examination

Sl No	Unit No.	Questions to be set for SEE				Remarks
		R		U	A	
1	I	4	1	9(a)	13(a)	
2	II					
3	III		2	10(a)	14(a)	
4	IV					
5	V	4	3	5, 6	9(b)	
					11(a)	
					11(b)	
6	VI		7,8	10(b)	14(b)	
					12(a)	
					12(b)	
Total Questions		8		8	8	

Legend:	Remembering (R)	1 Mark
	Understanding (U)	3 Marks
	Application (A)	5 Marks

SEE MODEL PAPER
DIPLOMA IN PRINTING TECHNOLOGY
Sub Name: Printing Machine Maintenance
Sub Code: 18PT-402C

Time : 2 Hours

Max Marks = 40

Part – A

8 X 1 = 8 Marks

Answer all the Questions. Each Question carries one marks

1. Define Maintenance?
2. Write short notes on plant?
3. Define training? ?
4. Classify maintenance?
5. Define maintenance planning?
6. Write short notes on objectives of training?
7. Define erection?
8. List out power transmitting elements?

Part – B

4 X 3 = 12 Marks

Answer the Following. Each Question carries 3 marks

- 9) a) Describe problems with poor maintenance?

(OR)

- b) Write about preventive maintenance

- 10) a) explain about spare parts?

(OR)

- b) Write advantages with maintenance?

- 11) a) Describe factors governing plant location?

(OR)

- b) Explain about testing?

- 12) a) Describe replacement of machine maintenance?

(OR)

- b) Explain about lubrication?

Part – C

4 X 5 = 20 Marks

Answer The following. Each Question carries 5 marks

13) a) Explain about types of maintenance?

(OR)

b) Write about objectives of training?

14 a) explain about categories of spares?

(OR)

b) explain about installation?

15 a) classify lubricants and explain?

(OR)

b) Write advantages with maintenance?

16 a) Explain about machine erection?

(OR)

b) What do you know about methods of lubrication?

CIE -MODEL QUESTION PAPER
DIPLOMA IN PRINTING TECHNOLOGY

Sub Name: Printing Machine Maintenance

Sub Code: 18PT-402C

I MID SEM

Time : 1 Hour

Max Marks = 20

Part – A

4 X 1 = 04 Marks

Answer all the Questions. Each Question carries two marks

1. Define plant?
2. Define maintenance
3. Write short notes on training
4. Define erection

Part – B

2 X 3 = 6 Marks

Answer all the Questions. Each Question carries 3 marks

5. A.) Write advantages with maintenance
(OR)
B.) Explain about machine testing
6. A.) Write about spare parts maintenance
(OR)
B.) Write about factors governing plant location

Part – C

2 X 5 = 10 Marks

Answer all the Questions. Each Question carries 5 marks

7. A.) Describe machine elements
(OR)
B.) explain about break down maintenance
- 8.) A.) Write about actual site for plant
(OR)
B.) Write about installation

CIE -MODEL QUESTION PAPER
DIPLOMA IN PRINTING TECHNOLOGY

Sub Name: Printing Machine Maintenance

Sub Code: 18PT-402C

II MID SEM

Time : 1 Hour

Max Marks = 20

Part – A

4 X 1 = 04 Marks

Answer all the Questions. Each Question carries two marks

1. Write importance of training
2. Define corrective maintenance
3. Write about importance of maintenance
4. Define erection

Part – B

2 X 3 = 6 Marks

Answer all the Questions. Each Question carries 3 marks

5. A.) Write about machine inspection

(OR)

B.) explain about problems with poor maintenance

- 6.A.) explain about spare parts

(OR)

B.) Describe methods of lubrication

Part – C

2 X 5 = 10 Marks

Answer all the Questions. Each Question carries 5 marks

- 7.A.) Write advantages with training

(OR)

B.) Write about machine replacement

- 8.) A.) Write about switches

(OR)

B.) Write about power transmission elements

COLOR SEPERATION & MANAGEMENT

Course Title : Color Separation & Management	Course Code :18PT-403C
Semester : IV	Course Group : Core
Teaching Scheme in Hrs (L:T:P): 36:24:0	Credits : 3
Type of Course : Lecture + Assignments	Total Contact Hours : 45hrs/60 pds
CIE : 60 Marks	SEE : 40 Marks

Pre requisites

This course requires the basic knowledge of color and management

Course Outcomes

CO1 :	Know how the measure the colour for various colour models
CO2 :	Identity different types of originals and colour diagrams
CO3 :	Recall colour and its importance
CO4 :	Understand the process of colour separation
CO5 :	Select and make use of electronic scanning
CO6 :	Understand and apply colour proofing system

Course Content

UNIT 1:COLOUR MEASUREMENT

Duration: 10 Pds

Methods of colour measurement (colour tolerance)ï colour gamut, colour models, HSL,HSB, C.I.E.-Colour matching-Colour difference measurement. Instrumental measurement of colourï Densitometry, Colorimetry and Spectrophotometry.

UNIT 2: COLOUR REPRODUCTION

Duration: 10 Pds

Originals and Print viewing conditions-originals for colour reproduction-colour prints, contrast range, colour balance and surface reflection, wash drawings and pastel colour originals, printed originals. Spectrophotometric curves for photographic materials. Colour Diagrams and their uses-CIE chromaticity diagram, Maxwell Additive Triangle, GATF colour circle.

UNIT 3: COLOUR AND ITS IMPORTANCE

Duration: 12 Pds

Colour theory-colour- additive colour & subtractive colour Colour wheel- primary colour, secondary colour, tertiary colour, colour Schemes-complementary colour- selection of colour for multi colour printing-choice and effective use of colour.

UNIT 4: COLOUR SEPARATION

Duration: 10 Pds

Outlines of colour separation-direct and in direct methods electronic colour scanners-Types, principles and functions Colour separation on CTP Colour cast removal Tonal changes-colour correction-Gray Balance setup procedure. Under colour addition, under colour removal-Gray component Replacement. Line mode in Scanners.

UNIT 5: DEVELOPMENTS IN ELECTRONIC SCANNING

Duration:10Pds

Colour separation in flatbed scanners used in Desktop Publishing. Register systems for Perfect Registration. Lasers-Principles of operation, types, characteristics.

UNIT 6: COLOUR PROOFING

Duration: 8 Pds

Press and Pre-press proofing systems. Digital colour proofing, study of hexa chrome (hi-fi) close colors Uses and limitations of colour chart-3 M match print colour control element.FOGRA standards.

Specific Learning Outcomes

CO1: Know how to measure the colour for various colour models

- 1.1 To discuss measurement of colour
- 1.2 To indicate Colour difference measurement
- 1.3 To apply Densitometry, Colorimetry and Spectrophotometry

CO2: Identify different types of originals and colour diagrams

- 2.1 To examine Originals and Print viewing conditions
- 2.2 To recall different originals
- 2.3 To review CIE chromaticity diagram

CO3: Recall colour and its importance

- 3.1 Explain colour theory (additive & subtractive)
- 3.2 Compare among Primary, secondary and tertiary colours
- 3.3 Describe colour wheel-colour scheme
- 3.4 Explain the effective use of colour

CO4: Understand the process of colour separation

- 4.1 To discuss outlines of colour separation
- 4.2 To define principles of electronic colour separation on CTP

- 4.3 To apply Gray component Replacement.
- 4.4 To identify Line mode in Scanners

CO5: Select and make use of electronic scanning

- 5.1 To employ Colour separation in flatbed scanners used in Desktop Publishing
- 5.2 To use register systems
- 5.3 To appraise laser principles

CO6: Understand and apply colour proofing system

- 6.1 To employ the prepress and press proofing systems
- 6.2 To discuss Digital colour proofing and Hexachrome (hifi) Close colors
- 6.3 To identify the uses and limitations of colour chart.
- 6.4 To relate 3M match print colour control element.
- 6.4 To analyze FOGRA standards

Suggested Students Activities:

- 1.) Understand how to measure the colour
- 2.) Compare the different types of originals used in colour reproduction
- 3.) Know about colour and its importance
- 4.) Practice colour separation methods
- 5.) Analyse and apply different types of proofing system

Recommended Books

Reproduction Photography for Lithography-GATF. Electronic colour separation-Dr. R. K .Molla, R.K. Printing and Publishing Company, WestVirginia, U.S.A.Standardized
Lithographic colour printing-PIRA Guide.Reproduction of colour-R.W.G.Hunt, Fountain Press.
Colour photography and the ink, paper and other related industries-John Wiley & Sons,
U.K.The Lithographers manual-7th Edition-GATF.The Lithographers manual-9th Edition- GATF. The art of colour-Johannes Item, Digital colour Printing Technology-
Biswanth Chakra varthy

E-Learning Links:

- 5.) http://support.rolanddga.com/Docs/Documents/departments/Technical%20Services/Manuals%20and%20Guides/Basics_of_Color_Management.pdf
- 6.) <https://www.ics.uci.edu/~majumder/vispercep/chap6notes.pdf>
- 7.) https://en.wikipedia.org/wiki/Color_theory
- 8.) http://www.britishprint.com/filemanager_net/files/download_files/Tech_Ware/PPH%2007%20-%205.8%20Proofs.pdf

MID SEM-I EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-I	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-II	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

MID SEM –II EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-III	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-IV	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

Semester End Examination

Sl No	Unit No.	Questions to be set for SEE				Remarks
		R		U	A	
1	I	4	1	9(a)	13(a)	
2	II					
3	III		2	10(a)	14(a)	
4	IV					
5	V		3	9(b)	13(b)	
				11(a)	15(a)	
				11(b)	15(b)	
6	VI		7,8	10(b)	14(b)	
				12(a)	16(a)	
				12(b)	16(b)	
Total Questions		8		8	8	

Legend:	Remembering (R)	1 Mark
	Understanding (U)	3 Marks
	Application (A)	5 Marks

SEE-MODEL PAPER
DIPLOMA IN PRINTING TECHNOLOGY
Sub Name: colour separation & Management
Sub Code: 18PT-403C

Time : 2 Hours

Max Marks = 40

Part – A

8 X 1 = 8 Marks

Answer all the Questions. Each Question carries one marks

- 1.) Define Colour gamut?
- 2.) Write short notes on colour separation?
- 3.) Define original?
- 4.) Write importance of densitometry?
- 5.) Define colour balance?
- 6.) Write short notes on colour channels?
- 7.) Define colour cast removal?
- 8.) Write about colour proofing?

Part – B

4 X 3 = 12 Marks

Answer the Following. Each Question carries 3 marks

- 9) a) Describe methods of colour measurement?

(OR)

- b) Write about colour original?

- 10) a) explain about Maxwell additive triangle?

(OR)

- b) Write about electronic colour scanning?

- 11) a) Describe CTP?

(OR)

- b) Explain about flatbed scanner?

- 12) a) Describe perfect registration?

(OR)

- b) Explain about press proofing?

Part – C

4 X 5 = 20 Marks

Answer The following. Each Question carries 5 marks

13) a) Explain about lasers?

(OR)

b) Write about digital colour proofing?

14) a) Explain about densitometer?

(OR)

b) Classify scanners and explain?

15) a) Write about gray component replacement?

(OR)

b) Write about hexa chrome colours?

16) a) Explain about additive colour theory?

(OR)

b) What do you know about FOGRA standards?

CIE -MODEL QUESTION PAPER
DIPLOMA IN PRINTING TECHNOLOGY
Sub Name: colour separation & Management
Sub Code: 18PT-403C
I MID SEM

Time : 1 Hours

Max Marks = 20

Part – A **4 X 1 = 04 Marks**
Answer all the Questions. Each Question carries two marks

- 1.) Define colours
- 2.) Write about colour tolerance
- 3.) List out originals
- 4.) Write about secondary colours

Part – B **2 X 3 = 6 Marks**
Answer all the Questions. Each Question carries 3 marks

- 5.) A.) Explain about densitometry
(OR)
B.) Explain about colour separation
- 6.) A.) write about colour balance
(OR)
B.) write about under colour removal

Part – C **2 X 5 = 10 Marks**
Answer all the Questions. Each Question carries 5 marks

- 7.) A.) Describe methods of colour separation
(OR)
B.) Explain about digital colour proofing
- 8.) A.) Explain about principles of lasers
(OR)
B.) Explain colour schemes

CIE -MODEL QUESTION PAPER
DIPLOMA IN PRINTING TECHNOLOGY
Sub Name: colour separation & Management
Sub Code: 18PT-403C
II MID SEM

Time : 1 Hours

Max Marks = 20

Part – A **4 X 1 = 04 Marks**
Answer all the Questions. Each Question carries two marks

1. Define colour separation
2. Write short notes on colorimetry
3. Write about colour models
4. Write about effective use of colour

Part – B **2 X 3 = 6 Marks**
Answer all the Questions. Each Question carries 3 marks

5. A.) What do you know about contrast range
(OR)
C.) Describe GATF colour circle
6. A.) Explain about colour scanner
(OR)
B.) Classify lasers and explain any one

Part – C **2 X 5 = 10 Marks**
Answer all the Questions. Each Question carries 5 marks

7. A.) Describe electronic scanning
(OR)
B.) explain about colour scanning
- 8.) A.) Write about colour matching
(OR)
B.) What is the purpose of colour separation

MODERN PLATE MAKING METHODS

Course Title : Modern Plate Making Methods	Course Code :18PT-404C
Semester : IV	Course Group : Core
Teaching Scheme in Hrs (L:T:P) : 36:24:0	Credits : 3
Type of Course : Lecture + Assignments	Total Contact Hours : 45hrs/60 pds
CIE : 60 Marks	SEE : 40 Marks

Pre requisites

Basic knowledge of different printing systems and their principles.

Course Outcomes

CO1 :	Analyze basic steps in film image assembly and preparation of layout using different tools.
CO2 :	Selection of different imposition schemes for printing book work.
CO3 :	Identify lithographic plates, materials. Spell plate graining.
CO4 :	Explain surface chemistry and make use of light sensitivity.
CO5 :	List out computer technologies and their uses.
CO6 :	Utilise computer to plate technology for offset printing process.

Course Content

UNIT 1: JOB PLANNING AND FILM ASSEMBLY

Duration: 10Pds

Examine job planning & importance of Planning - Basic steps in planning a film image assembly - Introduce film image assembly - Inspection & preparation of films before assembly - Planning of Layouts - Layout and Planning information - Preparation of Production Layouts - Equipment & Tools for Layout department - Preparing Complimentary Flats.

UNIT 2: IMPOSITION CONSIDERATIONS

Duration: 10Pds

Discuss Imposition Considerations for sheet fed presses & Web fed presses - Imposition terms & Imposition rules - Imposition schemes for printing bookwork - Full sheet work; work-and-turn; work-and-tumble.

UNIT 3:LITHOGRAPHIC PLATES

Duration: 08Pds

Classify main types of lithographic plates - Identify Plate making equipment i whirler, pressure vacuum printing down frame - List out Plate making materials - Define Plate graining - List out processing chemicals.

UNIT 4:PLATE SURFACE CHEMISTRY

Duration: 08Pds

Explain Chemistry of plate making - Discuss how to Control plate making variables - use of plate sensitivity - Control the tone values-use of GATF star target and other devices, continuous tone step wedge - Use Quality control devices used in plate making department.

UNIT 5:COMPUTER TO TECHNOLOGIES AND COMPUTER TO FILM; COMPUTER TO PRESS

Duration: 12Pds

The use of Computer to Film/Plate/Press technologies and Networking for the Production of Print Media - Computer to Film Principles & Equipment - Film Materials for CTF - Introduction to Computer to Press - Re-Imageable Printing Plate - Direct Imaging presses for larger sheet formats - Further Concepts for Computer to Press.

UNIT 6: COMPUTER TO PLATE

Duration: 12Pds

Introduction to Computer to Plate - Technology of Computer to Plate systems for Offset Printing - Imaging methods & Plate Punching - Computer to Plate systems for Offset Printing - Computer to Plate Workflow - Rise in Quality as a result of Computer to Plate - Printing plates for Digital Imaging - Trends in Computer to Plate.

Specific Learning Outcomes

CO1: Analyze basic steps in film image assembly and preparation of layout using different tools.

- 1.) Examine job planning & importance of Planning.
- 2.) Basic steps in planning a film image assembly.
- 3.) Introduce film image assembly.
- 4.) Inspection & preparation of films before assembly.
- 5.) Planning of Layouts.
- 6.) Layout and Planning information.
- 7.) Preparation of Production Layouts.
- 8.) Equipment & Tools for Layout department.
- 9.) Preparing Complimentary Flats.

CO2: Selection of different imposition schemes for printing book work.

- 1.) Discuss Imposition Considerations for sheet fed presses & Web fed presses.
- 2.) Imposition terms & Imposition rules.
- 3.) Imposition schemes for printing bookwork.
 - i. Full sheet work.
 - ii. Work and turn.
 - iii. Work and tumble.

CO3: Identify lithographic plates, materials. Spell plate graining.

- 1.) Classify main types of lithographic plates.
- 2.) Identify Plate making equipment.
 - i. whirler,
 - ii. pressure vacuum printing down frame.
- 3.) List out Plate making materials.
- 4.) Define Plate graining.
- 5.) List out processing chemicals.

CO4: Explain surface chemistry and make use of light sensitivity.

- 1.) Explain Chemistry of plate making.
- 2.) Discuss how to Control plate making variables.
- 3.) Use of plate sensitivity.
- 4.) Control the tone values-use of GATF star target and other devices.
- 5.) Continuous tone step wedge.
- 6.) Use Quality control devices used in plate making department.

CO5: List out computer technologies and their uses.

- 1.) The use of Computer to Film/Plate/Press technologies.
- 2.) Use of networking for the Production of Print Media.
- 3.) Computer to Film Principles & Equipment.
- 4.) Film Materials for CTF.
- 5.) Introduction to Computer to Press.
- 6.) Re-Imageable Printing Plate.
- 7.) Direct Imaging presses for larger sheet formats.
- 8.) Further Concepts for Computer to Press.

CO6: Utilise computer to plate technology for offset printing process.

- 1.) Introduction to Computer to Plate.
- 2.) Technology of Computer to Plate systems for Offset Printing.
- 3.) Imaging methods & Plate Punching.
- 4.) Computer to Plate systems for Offset Printing.
- 5.) Computer to Plate Workflow.
- 6.) Rise in Quality as a result of Computer to Plate.
- 7.) Printing plates for Digital Imaging.
- 8.) Trends in Computer to Plate.

Suggested Students Activities:

- 1.) Understand importance of planning layouts.
- 2.) Discuss imposition terms and classify different imposition schemes.
- 3.) Differentiate types of lithographic plates.
- 4.) Understand different computer technologies.
- 5.) Understand use of computer to plate technology.

Recommended Books

1. Modern film planning and plate making - AL Gate house and Kn Roper.
2. SITA Limited England Stripping.
3. The assembly of film images - GATF Offset lithographic plate making Robert F Reed.
4. GATF the lithographers manual - 7th edition.
5. GATF the lithographers manual - 9th edition.

E-Learning Links:

- 1.) https://books.google.co.in/books?redir_esc=y&id=VrdqBRgSKasC&q=computer+to+plate#v=snippet&q=imposition&f=false
- 2.) https://books.google.co.in/books?redir_esc=y&id=VrdqBRgSKasC&q=computer+to+plate#v=snippet&q=computer%20to%20plate&f=false
- 3.) https://books.google.co.in/books?redir_esc=y&id=VrdqBRgSKasC&q=computer+to+plate#v=snippet&q=computer%20to%20plate&f=false

CO-PO Mapping Matrix

COURSE OUT COME		CL	Linked PO	Teaching Hrs
CO1	Analyze basic steps in film image assembly and preparation of layout using different tools	R/U/A	1,2,4	10
CO2	Selection of different imposition schemes for printing book work.	R/U/A	2,3,7,9,10	10
CO3	Identify lithographic plates, materials. Spell plate graining	R/U/A	1,2,4,7,10	08
CO4	Explain surface chemistry and make use of light sensitivity	R/U/A	1,3,5,9,10	08
CO5	List out computer technologies and their uses.	R/U/A	1,4,9,10	12
CO6	Utilise computer to plate technology for offset printing process	U/A	2,4,5,8,10	12

MID SEM-I EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-I	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-II	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

MID SEM –II EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-III	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-IV	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

Semester End Examination

Sl No	Unit No.	Questions to be set for SEE				Remarks
		R		U	A	
1	I	4	1	9(a)	13(a)	
2	II					
3	III		2	10(a)	14(a)	
4	IV					
5	V		3	5, 6	9(b)	13(b)
					11(a)	
					11(b)	15(a)
6	VI		7,8	10(b)	14(b)	
				12(a)	16(a)	
				12(b)	16(b)	
Total Questions		8		8	8	

Legend:	Remembering (R)	1 Mark
	Understanding (U)	3 Marks
	Application (A)	5 Marks

SEE-MODEL PAPER
DIPLOMA IN PRINTING TECHNOLOGY
Sub Name: Modern Plate Making Methods
Sub Code: 18PT-404C

Time : 2 Hours

Max Marks = 40

Part – A

8 X 1 = 8 Marks

Answer all the Questions. Each Question carries one marks

1. Define job planning?
2. Write short notes on film assembly?
3. Define film preparation?
4. Write importance of layout?
5. Define imposition?
6. Write short notes on lithographic plates?
7. Define quality control?
8. Write about plate punching?

Part – B

4 X 3 = 12 Marks

Answer the Following. Each Question carries 3 marks

- 9) a) Describe preparation of production layout?

(OR)

- b) Write about imposition rules?

- 10) a) explain about work and tumble?

(OR)

- b) Write about plate making materials?

- 11) a) Describe computer to film?

(OR)

- b) Explain about computer to press?

- 12) a) Describe computer to plate work flow?

(OR)

- b) Explain about importance of planning?

Part – C

4 X 5 = 20 Marks

Answer The following. Each Question carries 5 marks

13) a) Explain about layout information?

(OR)

b) Write about imposition schemes for printed books?

14 a) explain about plate making equipments?

(OR)

b) classify offset plates and explain?

15 a) Write about plate graining?

(OR)

b) Write about processing chemicals?

16 a) Explain about chemistry of plate making?

(OR)

b) What do you know about plate sensitivity?

CIE -MODEL QUESTION PAPER
DIPLOMA IN PRINTING TECHNOLOGY
Sub Name: Colour separation & Management
Sub Code: 18PT-403C
I MID SEM

Time : 1 Hours

Max Marks = 20

Part – A **4 X 1 = 04 Marks**
Answer all the Questions. Each Question carries two marks

1. Define film assembly
2. Write about job planning
3. List out tools for layout preparation
4. Write about imposition

Part – B **2 X 3 = 6 Marks**
Answer all the Questions. Each Question carries 3 marks

5. A.) classify offset plates and explain
(OR)
B.) Explain about layout information
6. A.) Explain about importance of planning
(OR)
B.) Describe computer to plate work flow

Part – C **2 X 5 = 10 Marks**
Answer all the Questions. Each Question carries 5 marks

7. A.) What do you know about plate sensitivity
(OR)
B.) Explain about imposition rules
- 8.) A.) Write about processing chemicals
(OR)
B.) Write about plate graining

CIE -MODEL QUESTION PAPER
DIPLOMA IN PRINTING TECHNOLOGY
Sub Name: Colour separation & Management
Sub Code: 18PT-403C
II MID SEM

Time : 1 Hours
= 20

Max Marks

Part – A **4 X 1 = 04 Marks**
Answer all the Questions. Each Question carries two marks

1. Write importance of job planning
2. List out tools for layout preparation
3. Write about job planning
4. Define film assembly

Part – B **2 X 3 = 6 Marks**
Answer all the Questions. Each Question carries 3 marks

5. A.) What do you know about plate sensitivity
(OR)
B.) Explain about importance of planning
6. A.) Describe computer to plate work flow
(OR)
B.) Write about plate graining

Part – C **2 X 5 = 10 Marks**
Answer all the Questions. Each Question carries 5 marks

7. A.) Describe preparation of production layout
(OR)
B.) classify offset plates and explain
- 8.) A.) Write about layout preparation
(OR)
B.) What is the purpose of plate treatment

PUBLISHING SOFTWARE

Course Title	: Publishing Software	Course Code	:18PT-405C
Semester	: 1V	Course Group	: Core
Teaching Scheme in Hrs (L:T:P) : 36:24:0		Credits	: 3
Type of Course	: Lecture + Assignments	Total Contact Hours : 45hrs/60 pds	
CIE	: 60 Marks	SEE	: 40 Marks

Pre requisites

This course requires the knowledge of computer fundamentals.

Course Outcomes

CO1 :	Define computer, Classify Computer, Storage media, File Formats, DTP Software
CO2 :	Page maker and its tools
CO3 :	Illustrator basics ,Corel Draw basics, Logo Design
CO4 :	Photoshop basics, its tools, Photo editing ,design
CO5 :	InDesign and its tools
CO6 :	Pages and layers, Colours, Tints, Gradients, Object fundamentals

Course Content

Unit I: Basic Anatomy of a Computer

Define Computer and its Features; Classify Computers; Classify Storage Media; Different File Formats used in Designing Software

Unit II: Paging Software's

Introduction to Adobe PageMaker and QuarkXPress; The User Interface; Projects and Layouts; Boxes Lines and Tables; Text and Typography; Working with Pictures; Working with Colour; Document Construction

Unit III: Vector Graphic Editing Software

Illustrator Basics ï Understanding Illustrator's Desktop, Working with Illustrator

Documents; Putting Illustrator to Work ĩ Working with Type, Strokes and Pattern; Corel Draw Basics ĩ Basics, Photo paint, ; Colour Basics ĩ Colour Management; Page Layout and Illustrations ĩ Tips and techniques; Book Cover Illustration and Design ĩ Wrap; Logo Design

Unit IV: Scalar Image Editing Software

Starting Adobe Photoshop and Opening Files; Using Tools - Entering Values, Viewing Images, working with Selections ĩ Moving Selections, Magic wand tool; Layer Basics ĩ Creating and Viewing layers, Rearranging layers; Painting and Editing; Masks and Channels; Photo Retouching; Basic Pen Tools Techniques; Vector Shapes and Clipping Paths

Unit V: Desktop Publishing Software

Creating a New Document ĩ Working with Frames, working with text; Working with Multiple Document Windows ĩ Saving Documents; Using Tools; Working with Panels and Docks ĩ Adding pages Deleting pages;

Unit VI: Menu Commands

Working with Preferences Files; Working with Pages and Layers ĩ Creating layers, working with layers; Creating Layout Standards; Defining Colours ĩ Colour terms, mixing spot and Process colours, Tints, Gradients; Object Fundamentals ĩ Creating Graphic frames.

Specific Learning Outcomes

CO1: Basic Anatomy of a Computer

- 1) Define Computer and its Features
- 2) Classify Computers
- 3) Classify Storage Media
- 4) Different File Formats used in Designing Software

CO2: Paging Software

- 1) Introduction to Paging Software
- 2) The User Interface
- 3) Projects and Layouts
- 4) Boxes Lines and Tables
- 5) Text and Typography
- 6) Working with Pictures
- 7) Working with Colour
- 8) Document Construction

CO3: Vector Graphic Editing Software

- 1) Illustrator Basics
- 2) Putting Illustrator to Work
- 3) Corel Draw Basics
- 4) Colour Basics
- 5) Page Layout and Illustrations
- 6) Book Cover Illustration and Design
- 7) Logo Design

CO4: Scalar Image Editing Software

- 1) Starting Adobe Photoshop and Opening Files
- 2) Using Tools
- 3) Working with Selections
- 4) Layer Basics
- 5) Painting and Editing
- 6) Masks and Channels
- 7) Photo Retouching
- 8) Basic Pen Tools Techniques
- 9) Vector Shapes and Clipping Paths

CO5: Desktop Publishing Software

- 1) Creating a New Document
- 2) Working with Multiple Document Windows
- 3) Using Tools
- 4) Working with Panels and Docks

CO6: Menu Commands

- 1) Working with Preferences Files
- 2) Working with Pages and Layers
- 3) Creating Layout Standards
- 4) Defining Colours, Tints, Gradients
- 5) Object Fundamentals

Suggested Students Activities:

- 1.) Understand and make report on Basic Anatomy of a Computer
- 2.) Compare the types of Desktop Publishing Software
- 3.) Distinguish between Scalar Image Editing Software
- 4.) Understand and make report on Menu Commands
- 5.) Differentiate types of Vector Graphic Editing Software

Recommended Books

1. E i Publishing by John Kennel
2. Manuals of PageMaker,
3. Manuals of Photoshop
4. Fundamentals of Computers by Rastogi

E-Learning Links:

- 1.) Rees, Fran. [Johannes Gutenberg: Inventor of the Printing Press](#)
- 2.) [Thomas Franklin Carter](#), The Invention of Printing in China and its Spread Westward, The Ronald Press, NY 2nd ed. 1955, pp. 176i 178
- 3.) Kipphan, Helmut (2001). [Handbook of print media: technologies and production methods](#) (Illustrated ed.). Springer. pp. 130i 144. [ISBN 3-540-67326-1](#).
- 4.) *Kipphan, Helmut (2001). [Handbook of print media: technologies and production methods](#) (Illustrated ed.). Springer. pp. 48–52. [ISBN 3-540-67326-1](#).*

COURSE OUT COME		CL	Linked PO	Teaching Hrs
CO1	Define computer, Classify Computer, Storage media, File Formats, DTP Software	R/U/A	1,2,4,10	10
CO2	Page maker and its tools	R/U/A	2, 3, 4	12
CO3	Illustrator basics ,Corel Draw basics, Logo Design	R/U/A	1,2,3	12
CO4	Photoshop basics, its tools, Photo editing ,design	R/U/A	1,2, 3,	08
CO5	InDesign and its tools	R/U/A	1, 2, 4, 8	08
CO6	Pages and layers, Colours, Tints, Gradients, Object fundamentals	U/A	1, 2,7,8	10

MID SEM-I EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-I	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-II	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

MID SEM –II EXAM

S.No	Unit Name	R	U	A	Remarks
1	Unit-III	1, 2	5(a) 5(b)	7(a) 7(b)	
2	Unit-IV	3, 4	6(a) 6(b)	8(a) 8(b)	
Total Questions		4	4	4	

Semester End Examination

Sl No	Unit No.	Questions to be set for SEE				Remarks
		R		U	A	
1	I	4	1	9(a)	13(a)	
2	II					
3	III		2	10(a)	14(a)	
4	IV					
5	V	4	3	5, 6	9(b)	13(b)
					11(a)	
					11(b)	
6	VI		7,8	10(b)	14(b)	
					12(a)	
					12(b)	16(b)
Total Questions		8		8	8	

Legend:	Remembering (R)	1 Mark
	Understanding (U)	3 Marks
	Application (A)	5 Marks

SEE - MODEL QUESTION PAPER
DIPLOMA IN PRINTING TECHNOLOGY

Sub Name: Publishing Software

Sub Code: 18PT-405C

Time : 2 Hours

Max Marks = 40

Part – A

8 X 1 = 08 Marks

Answer all the Questions. Each Question carries One mark

- 1.) Define Computer
- 2.) List out the File Formats
- 3.) What are the Projects and Layouts
- 4.) Define Illustrator Basics
- 5.) What is Adobe Photoshop
- 6.) Create a New Document
- 7.) What is Vector Graphic
- 8.) Write about Bitmap Graphic

Part – B

4 X 3 = 12 Marks

Answer all Four Questions. Each Question carries Three marks

- 9.) A.) Define Indesign

(or)

b.) How to workout with pages in QuarkXPress

- 10.) A.) What is the need of Layers in Designing Software

(OR)

B.) Describe Hue

- 11.) A.) What is Color Saturation

(OR)

B.) Explain LAB

- 12.) A.) What are the uses of color Levels

(OR)

B.) Why is a Original picture to be Duplicated

Part – C

4 X 5 = 20 Marks

Answer all the Four Questions. Each Question carries 5 marks

13.) 13. A.) Write the features of Computers

(OR)

B.) Classify computers

14.) A.) Explain Document Construction

(OR)

B.) Describe Photoshop Tools

15.) A.) Describe working with multiple document windows

(OR)

B.) How to work with Panels

16.) A.) What are the uses of Docks

(OR)

b.) Define Gradients

**CIE -MODEL QUESTION PAPER
DIPLOMA IN PRINTING TECHNOLOGY**

Sub Name: Publishing Software

Sub Code: 18PT-405C

I MID SEM

Time : 1 Hours

Max Marks = 20

Part – A

4 X 1 = 04 Marks

Answer all the Questions. Each Question carries two marks

- 1.) Define Computer
- 2.) List out Input Devices
- 3.) Write the uses of Mouse
- 4.) What is CPU

Part – B

2 X 3 = 6 Marks

Answer all the Questions. Each Question carries 3 marks

- 5.) A.) Classify Storage Media
(OR)
D.) Describe PageMaker tools
- 6.) A.) Write the uses of Layout
(OR)
B.) Describe Corel Draw Tools

Part – C

2 X 5 = 10 Marks

Answer all the Questions. Each Question carries 5 marks

- 7.) A.) How to work with Pages
(OR)
B.) Describe InDesign Tools
- 8.) A.) How is Corel Draw different from QuarkExpress
(OR)
B.) How to work with Color Panels

**CIE -MODEL QUESTION PAPER
DIPLOMA IN PRINTING TECHNOLOGY**

Sub Name: Publishing software

Sub Code: 18PT-405C

II MID SEM

Time : 1 Hours

Max Marks = 20

Part – A

4 X 1 = 04 Marks

Answer all the Questions. Each Question carries two marks

- 1.) Define viewing Image
- 2.) How to save a design in Photoshop
- 3.) What is a need of a Computer
- 4.) What is DTP

Part – B

2 X 3 = 6 Marks

Answer all the Questions. Each Question carries 3 marks

- 5.) A.) Write about Pen Tool in Photoshop
(OR)
E.) Explain about Background and Foreground colors
- 6.) A.) How to set the Layout in Photoshop
(OR)
B.) What is the use of stamp tool in Photoshop

Part – C

2 X 5 = 10 Marks

Answer all the Questions. Each Question carries 5 marks

- 7.) A.) Explain Vector shapes and Clipping Tools
(OR)
B.) Explain Layer pallet in Corel Draw
- 8.) A.) How to draw tables in Page Maker
(OR)
B.) What are the tools to be used to design a Cover page of a book

PUBLIHSING SOFTWARE LAB PRACTICE

Course Title:	Publishing Software Lab	Course Code :	18PT-406P
Semester:	IV Semester	Course Group :	Core
Teaching Scheme in Hrs(L:T:P):	7.5:00:37.5	Credits :	1.5
Type of Course :	Lecture+Practical	Total Contact Hours :	45 Periods
CIE :	60 Marks	SEE :	40 Marks

Pre requisites

Knowledge on Computer Fundamentals

Course Content

UNIT 1: Paging Software

- 1) Introduction to Paging Software
- 2) The User Interface
- 3) Projects and Layouts
- 4) Boxes Lines and Tables
- 5) Text and Typography
- 6) Working with Pictures
- 7) Working with Colour
- 8) Document Construction

UNIT 2: Illustrator Software

- 1) Illustrator Basics
- 2) Putting Illustrator to Work
- 3) Tool bar
- 4) Menu bar
- 5) Creating Designs
- 6) Painting and Editing

UNIT 3: Photoshop and CorelDraw

- 1) Introduction to Photoshop
- 2) The User Interface
- 3) Projects and Layouts
- 4) Boxes Lines and Tables
- 5) Working with Layers
- 6) Working with Pictures

- 7) Working with Colour
- 8) Creating Panels
- 9) Corel Draw Basics
- 10) Putting Corel Draw to Work
- 11) Tool bar
- 12) Menu bar
- 13) Creating Logos

CO-PO Mapping Matrix

Course Outcome		CL	Linked PO	Teaching Hours
CO1	Paging Software	R/U/A	1,2,3,4,5,6,7,8	15
CO2	Illustrator Software	R/U/A	1,2,3,4	15
CO3	Designing Bitmap Images and Vector Graphics	R/U/A	1,2,3,4,5,6,7,8	15

Suggested Student Activities

1. Identification of photo shop tools.
2. Practicing of projects and layouts.
3. Visit of designing workshop.
4. Question on printing software.
5. Conduct a Group discussion to be about the usefulness of the concerned section in printing software.
6. Surprise test in each section of printing software.
7. Creating Logos
8. Designs with pencil tool

Suggested E-Learning references:

1. Photo shop

- [*Photoshop \(disambiguation\)*](#)
- [Adobe Photoshop](#)
- [Photo software](#)
- [Adobe Creative Suite](#)

2. CorelDraw

- [vector graphics editor](#)
- [Corel Corporation.](#)
- [bitmap-image editor Corel Photo-Paint](#)
- [Adobe Type Manager](#)

Model Question Paper
C-18, Diploma in Printing Technology, 4th Semester
18PT-406P: publishing software's Lab
Mid Sem -1 / Mid Sem-2 / Semester End Examination

Time: 3 Hour

Total Marks: 20 / 20 /40

Note:

- i. Answer any **one** of the following.*
- ii. Use lottery system for allocation of the experiment for the examination.*

1. List out different tools of photo shop software.
2. Explain about CorelDraw software.
3. What do you know about user interface.
4. Explain about layout preparation.
5. Write about working with layers.
6. What is creating panels.
7. Explain about working with colours.
8. Write about tool bar.
9. What do you know about CorelDraw basics.
10. Explain about creating logo.

COLOUR SEPERATION LAB PRACTICE

Course Title:	Colour Separation Lab	Course Code :	18C-407P
Semester:	IV Semester	Course Group :	Core
Teaching Scheme in Hrs(L:T:P):	7.5:00:37.5	Credits :	1.5
Type of Course :	Lecture+Practical	Total Contact Hours :	45 Periods
CIE :	60 Marks	SEE :	40 Marks

Pre requisites

Knowledge on colour separation

Course Content

UNIT 1: Methods of colour measurement and instrument Periods-15

- 1.) Colour Tolerance
- 2.) Colour gamut, colour models- HSL, HSB, CIE.
- 3.) Colour matching
- 4.) Instruments- Densitometry, Colorimetry and Spectrophotometry

UNIT 2: Colour Reproduction Periods-15

- 1.) Colour theory
- 2.) Colour wheel
- 3.) Kinds of originals

UNIT 3: Colour separation Periods-15

- 1.) Direct method of colour separation
- 2.) In direct colour separation
- 3.) Electronic colour separation

CO-PO Mapping Matrix

Course Outcome		CL	Linked PO	Teaching Hours
CO1	Know different types of colour models and their measurement	R/U/A	1,2,3,4,5,6,7,8	15
CO2	Understand colour and kinds of originals	R/U/A	1,2,3,4	15
CO3	Practice of methods of colour separation	R/U/A	1,2,3	15

Suggested Student Activities

- a. Identifying different tools in paging software.
- b. Understanding about design.
- c. Visit of designing industry.
- d. Question on software usage.
- e. Conduct a Group discussion to be about the usefulness of the concerned section in computer softwares.
- f. Surprise test in each section printing software.

Suggested E-Learning references:

- i. Methods of colour measurements and Instruments.
 - [tristimulus colorimeter](#)
 - [spectroradiometer](#)
 - [reflectance](#), [transmittance](#)
 - [digital imaging](#)
- ii. Colour Reproduction
 - [monochromeprinting](#)
 - [primary colors](#)
 - [secondary color](#)
 - [tertiary.](#)
- iii. Colour Separation
 - [color](#)
 - [process color](#)
 - [continuous tone](#)
 - [color management system](#)

Model Question Paper
C-18, Diploma in Printing Technology, 4th Semester
18PT-407P: Colour separation lab practice
Mid Sem -1 / Mid Sem-2 / Semester End Examination

Time: 3 Hour

Total Marks: 20 / 20 / 40

Note:

- i. Answer any **one** of the following.
- ii. Use lottery system for allocation of the experiment for the examination.

1. Write about colour tolerance.
2. Explain about colour matching.
3. Write about densitometer.
4. Explain about colorimeter.
5. What do you know about spectrophotometer.
6. Write about colour theory.
7. List out originals and explain.
8. Write about electronic colour separation.
9. Write about direct method of colour separation.
10. Explain about colour wheel.

MODERAN PLATE MAKING METHODS LAB PRACTICE

Course Title	Modern Plate Making Methods lab	Course Code	18PT-408P
Semester	IV	Course Group	Core
Teaching Scheme in Hrs(L:T:P)	7.5:00:37.5	Credits	1.5
Type of Course	Lecture + Practical	Total Contact Hours	45 Periods
CIE	60 Marks	SEE	40 Marks

Pre requisites

Knowledge on Image carriers used in printing

Course Content

UNIT 1: LAYOUT PREPERATION

Periods-15

- 1) Layout preparation for film assembly using
 - i. Register marks,
 - ii. Bleed marks,
 - iii. Trim marks and
 - iv. Folding marks.
- 2) Preparing flats.
- 3) Retouching.

UNIT 2: IMPOSITION

Periods-15

- 1) Assembly of film negatives for sheet work and half sheet work up to 16 pages section of imposition schemes.
- 2) Assembly of film positives for sheet work and half sheet work up to 16 pages section of imposition schemes.
- 3) Multi colour film assembly using pin register systems.
- 4) Preparation of complementary flats using negative and positives for butting images and surprint.
- 5) Offset plate making for colour printing - wipe-on process and pre-sensitized plates using both negative and positive films.

UNIT 3: PLATE PREPERATION

Periods-15

- 1) Surface plate preparation.
- 2) Wipe-on process.
- 3) Pre sensitized (PS) plates using both negative and positive films.
- 4) Plate inspection an application of washout solution.
- 5) Study of various quality control aids in plate making.

CO-PO Mapping Matrix

Course Outcome		CL	Linked PO	Teaching Hours
CO1	Organize layout preparation	R/U/A	1,2,2,4,9,10	15
CO2	Prioritize imposition	R/U/A	1,2,4,9	15
CO3	Evaluate plate preparation	R/U/A	2,4,6,9	15

Suggested Student Activities

- 1 Preparation of printing layout.
- 2 Understanding about register mark and bleed mark.
- 3 Knowing about imposition.
- 4 Question on plate preparation..
- 5 Conduct a Group discussion to be about the usefulness of the concerned section in plate making section.
- 6 Surprise test in plate making section.

Suggested E-Learning references:

Layout Preparation

- [Page layout](#)
- [Automobile layout.](#)
- [Integrated circuit layout.](#)
- [Keyboard layout.](#)
- [Model railroad layout.](#) a
- [Process layout](#)
- [Product layout](#)

Imposition

- ["Archived copy"](#)
- [the original](#)
- [prepress](#)
- [binding](#)

Plate Preparation

- [Encyclopædia Britannica.](#)
- [Goodheart - Willcox. ISBN 978-1-56637-621-1](#)
- [Handbook of print media: technologies and production methods](#)

Model Question Paper
C-18, Diploma in Printing Technology, 4th Semester
18PT-408P: Modern Plate Making Methods Lab Practice
Mid Sem -1 / Mid Sem-2 / Semester End Examination

Time: 3 Hour

Total Marks: 20 / 20 / 40

Note:

- i. Answer any **one** of the following.
- ii. Use lottery system for allocation of the experiment for the examination.

1. Write about layout preparation.
2. Explain about folding marks.
3. Write about retouching.
4. Explain about imposition schemes.
5. What do you know about offset plate making.
6. Write about surface preparation.
7. Explain about wipe-on plates.
8. Write about plate inspection.
9. Write about trim marks.
10. Explain about quality control.

PRINT QUALITY ASSURANCE LAB PRACTICE

Course Title	Print Quality Assurance Lab	Course Code	18PT-409P
Semester	IV	Course Group	Core
Teaching Scheme in Hrs(L:T:P)	7.5:00:37.5	Credits	1.5
Type of Course	Lecture + Practical	Total Contact Hours	45 Periods
CIE	60 Marks	SEE	40 Marks

Pre requisites

Knowledge on Printing and its quality.

Course Content

UNIT 1: Quality Testing

Periods-23

- 1.) Visual evaluation of Printed Products
- 2.) Tonal Adjustment
- 3.) Colour Measurement and evaluation
- 4.) Under Colour removal
- 5.) Grey colour removal
- 6.) Adjustment of Input & Display device

UNIT 2: Colour measurements

Periods-22

- 1.) Colour Management in Image editing softwares
- 2.) Density measurement and control
- 3.) Dot gain measurement
- 4.) Trapping measurement
- 5.) Colour Panels
- 6.) Image duplicating
- 7.) Masking.

CO-PO Mapping Matrix

Course Outcome		CL	Linked PO	Teaching Hours
CO1	Learning Different types of Quality Testing Methods	R/U/A	1,2,2,4,9,10	15
CO2	Practising Colour Measurements	R/U/A	1,2,4,9	15

Suggested Student Activities

1. Practicing on quality testing.
2. Understanding about tonal adjustment.
3. Knowing about under colour removal.
4. Question on adjustment of input and output devices.
5. Conduct a Group discussion to be about the usefulness of the concerned section in colour measurement.
6. Surprise test in quality control.

Suggested E-Learning references:

1. Quality Testing

- *The Quality Assurance Journal* ^[dead link], ISSN 1087-8378, John Wiley & Sons
- *Quality Progress*, ISSN 0033-524X, American Society for Quality
- *Quality Assurance in Education*, ISSN 0968-4883, Emerald Publishing Group
- *Accreditation and Quality Assurance*, ISSN 0949-1775

2. Colour Measurements

- [spectral power distribution](#)
- [monochromator](#)
- [spectral reflectance](#)
- [color space transformations.](#)
- [chromaticity](#)

Model Question Paper
C-18, Diploma in Printing Technology, 4th Semester
18PT-409P: Print quality assurance Lab Practice
Mid Sem -1 / Mid Sem-2 / Semester End Examination

Time: 3 Hour

Total Marks: 20 / 20 / 40

Note:

- i. Answer any **one** of the following.
- ii. Use lottery system for allocation of the experiment for the examination.

1. Write about quality control.
2. Explain about tonal adjustment.
3. Write about under colour removal.
4. Explain about grey colour removal.
5. What do you know about input and output devices.
6. Write about colour measurement.
7. Explain about dot gain measurement.
8. Write about image duplicating.
9. Write about masking.
10. Explain about colour panels.

Advanced Communication Skills and Life Skills

Course Title	Advanced Communication Skills and Life Skills	Course Code	18 PT-410 P
Semester	IV	Course Group	Foundation
Teaching Scheme in Periods- L: T:P	15:0:30	Credits	1.5
Methodology	Lecture + Practical	Total Contact Hours	45 Periods (3 Periods per Week)
CIE	60 Marks	SEE	40 Marks

Rationale:

This course is designed to impart writing skills and employability skills to the students of diploma which will help them in obtaining and maintaining the employment.

Prerequisites:

This course requires the basic knowledge of vocabulary, grammar and four language learning skills, viz. Listening, Speaking, Reading and Writing.

Course Outcomes:

	At the end of the course the students will have the ability to:
Presentation Skills	Prepare a presentation. Use presentation aids effectively. Develop public speaking skills. Learn to make PPTs effectively. Present a Paper using appropriate body language.
Writing Reports	Organise ideas. Learn the format of a report. Develop essential vocabulary useful to write scientific and technical reports.

Interview Skills	Learn the techniques to face an interview. Learn the etiquette to communicate with employers. Learn the dos and don'ts of an interview. Use appropriate body language. Learn to face interviews telephonically. Gain the confidence to face an interview by attending mock interview.
Group Discussion	Learn the dos and don'ts of a Group Discussion Participate in a Group Discussion in a healthy manner Use effective non-verbal communication Use appropriate phrases and expressions useful in a group discussion.
Writing Skills at Workplace	Learn various writing formats useful at workplace. Develop corresponding skills. Develop an ability to apply technical information in documentation. Revise and edit written documents effectively. Prepare the minutes of a meeting. Prepare notices for various purposes. Prepare an agenda of a meeting. Prepare press notes.
Workplace Awareness	Learn workplace etiquette. Identify the knowledge, skills and attributes useful at workplace. Build strong workplace relationships. Learn professional ethics. Develop a sense of responsibility towards the society.

CO-PO Matrix

	Course Outcome		Linked PO
CO 1	Making effective presentations	R/U/A	1, 2, 3,4, 5,6,7,8,9,10
CO 2	Writing scientific and technical reports	R/U/A	1,2,3,4, 5,6,7,8,9,10
CO 3	Learn to face oral and telephonic interviews	R/U/A	1,2,3,4, 7,9,
CO 4	Learn to face group discussion	R/U/A	1,2,3,7,8,9
CO 5	Learn to write various formats useful at workplace	R/U/A	1,2,3,5,7,8,9,10
CO6	Learn workplace etiquette and ethics	R/U/A	1,2,3,7,8,9,10

Course Contents:

- | | |
|--------------------------------|---------------------|
| i. Presentation Skills | Duration: 6 periods |
| ii. Writing Reports | Duration: 6 periods |
| iii. Interview Skills | Duration: 9 periods |
| iv. Group Discussion | Duration: 9 periods |
| v. Writing Skills at Workplace | Duration: 9 periods |
| vi. Workplace Awareness | Duration: 6 periods |

Suggested Student Activities:

- Paper Presentations
- Seminars
- Mock Interviews
- Telephonic Interviews
- Group Discussions
- Role Plays
- Creating advertisements
- Five-minute activities
- Creating a model of workplace

Evaluation Pattern:

I. Continuous Internal Examination: 60 Marks

- a. **Mid Sem - I** 20 marks
Syllabus:
 - i. Presentation Skills
 - ii. Writing Reports
- b. **Mid – II:** 20 Marks
Syllabus:
 - i. Interview Skills
 - ii. Group Discussion
- c. **Internal assessment:** 20 marks
 - i. Seminars: 10 marks
 - ii. Assignments: 5 marks
 - iii. Lab record submission: 5 marks

II. Semester End Examination : 40 Marks

- a. Write an essay on a given topic or participate in an activity: 15 Marks
- b. Interview or Group Discussion: 15 Marks
- c. *Viva Voce* 10 marks

References:

- Adair, John. *Effective Communication*. London: Pan Macmillan Ltd., 2003.
- Ajmani, J. C. *Good English: Getting it Right*. New Delhi: Rupa Publications, 2012.
- Amos, Julie-Ann. *Handling Tough Job Interviews*. Mumbai: Jaico Publishing, 2004.
- Collins, Patrick. *Speak with Power and Confidence*. New York: Sterling, 2009.
- Fensterheim, Herbert and Jean Baer. *Don't Say Yes When You Want To Say No*. New York: D
- Raman, Meenakshi & Sangeeta Sharma. *Technical Communication: Principles and Practice*. Second Edition. New Delhi: Oxford University Press, 2011

E-Learning Resources:

<http://www.dailywritingtips.com/>

<http://www.englishdaily626.com/c-errors.php>

<http://www.owl.net.rice.edu/~cainproj/>

<http://www.thehumorsource.com/>

<http://www.indiabix.com/group-discussion/topics-with-answers/>

<http://networketiquette.net/>

<https://public.wsu.edu/~brians/errors>

<http://www.bbc.co.uk/worldservice/learningenglish/radio/specials/15>

BOARD DIPLOMA EXAMINATION (C-18)

FOURTH SEMESTER COMMON-410P

ADVANCED COMMUNICATION SKILLS AND LIFE SKILLS

MID SEM - I

Time : 1 Hour

Total Marks: 20 Marks

Part – A

10 marks

Instruction: Answer any one of the following questions.

1. Write the guidelines for preparing a PowerPoint presentation.
2. How do you prepare yourself for presenting a technical paper?
3. Mention a few presentation aids and how do you use them effectively?

Part – B

10 marks

Instruction: Answer any one of the following questions.

4. Write the format of a report and describe it.
5. Write a report on the accident you have seen.
6. Give the outline of a project report and describe it.

BOARD DIPLOMA EXAMINATION (C-18)
FOURTH SEMESTER COMMON-410P
ADVANCED COMMUNICATION SKILLS AND LIFE SKILLS
MID SEM - II

Time : 1 Hour

Total Marks: 20 Marks

Part – A

10 marks

Instruction: Answer any one of the following questions.

1. What are the dos and don'ts for a formal interview?
2. What at least ten frequently asked questions in a formal interview?
3. How do you prepare for a telephonic interview?

Part – B

10 marks

Instruction: Answer any one of the following questions.

4. What are the dos and don'ts of a group discussion?
5. Mention some phrases and expressions commonly used in a group discussion.
6. Write a short paragraph on the steps you take while participating in a group discussion.

BOARD DIPLOMA EXAMINATION (C-18)
FOURTH SEMESTER 18 COMMON-410P
ADVANCED COMMUNICATION SKILLS AND LIFE SKILLS
SEMESTER END EXAM

Time : 3 Hours

Total Marks: 40 Marks

Part – A

10 marks

Instruction: Pick any one question from the given lot.

1. Prepare the outline of a project report and describe it.
2. Write the guidelines for preparing the slides of a PowerPoint presentation.
3. Write the minutes of the meeting conducted at the Principal's chamber to conduct the annual day celebrations. Prepare the agenda of the annual day celebrations.
4. Describe the workplace etiquette.
5. Prepare a press note for the 'Job Mela' which is going to be conducted at your institute.

Part – B

15 marks

6. Interview / Group Discussion

Part – C

15 marks

7. *Viva Voce*

SKILL UP GRADATION/ ACADEMIC ACTIVITIES

CREDITS - 2.5

1 SKILL UPGRADATION IN - ADVANCED ENGINEERING MATHEMATICS

ACTIVITY ASSESSMENT Steps

- 1. Mathematical concepts**
- 2. Procedure**
- 3. Explanation**
- 4. Working with others**
- 5. Mathematical errors**

ACTIVITIES

1. List out the methods to find complimentary function and explain to solve a homogeneous Linear Differential equations.
2. List out the methods to find Particular integrals and explain the solution of Non-homogeneous Linear Differential equations.
3. Write short notes on expansion of simple functions as a Fourier series.
- 4 . Prepare a presentation on Laplace Transforms of simple functions.
- 5 . Prepare a presentation on Inverse Laplace Transforms of simple functions.
6. List out different applications of Laplace Transforms.
7. Solve the Differential equation by applying Laplace Transformations.

CO / PO - MAPPING OF ACTIVITIES

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	2	1			1	3	2	3
CO2	3	2	2	1			1	3	2	3
CO3	3	2	2	1			1	3	2	3
CO4	3	2	2	1			1	3	2	3
CO5	3	2	2	1			1	3	2	3
CO6	3	2	2	1			1	3	2	3
CO7	3	2	2	1			1	3	2	3

Rubrics for Activity assessment

CATEGORY	4	3	2	1
Mathematical Concepts	Explanation shows complete understanding of the mathematical concepts used to solve the problem(s).	Explanation shows substantial understanding of the mathematical concepts used to solve the problem(s).	Explanation shows some understanding of the mathematical concepts needed to solve the problem(s).	Explanation shows very limited understanding of the underlying concepts needed to solve the problem(s) OR is not written.
Procedures	Typically, uses an efficient and effective procedure to solve the problem(s).	Typically, uses an effective procedure to solve the problem(s).	Sometimes uses an effective procedure to solve problems, but does not do it consistently.	Rarely uses an effective procedure to solve problems.
Explanation	Explanation is detailed and clear.	Explanation is clear.	Explanation is a little difficult to understand, but includes critical components.	Explanation is difficult to understand and is missing several components OR was not included.
Working with Others	Student was an engaged partner, listening to suggestions of others and working cooperatively throughout lesson.	Student was an engaged partner but had trouble listening to others and/or working cooperatively.	Student cooperated with others, but needed prompting to stay on-task.	Student did not work effectively with others.
Mathematical Errors	90-100% of the steps and solutions have no mathematical errors.	Almost all (85-89%) of the steps and solutions have no mathematical errors.	Most (75-84%) of the steps and solutions have no mathematical errors.	More than 75% of the steps and solutions have mathematical errors.

- 1.) Understand and make report on Machine Maintenance
- 2.) Compare the types of Machine Maintenance
- 3.) Distinguish between testing and test charts
- 4.) Understand and make report on Machine Erection And Foundation
- 5.) Differentiate types of Lubricants
- 6.) Usage of Different Electrical Controls
- 7.) Understand how to measure the colour
- 8.) Compare the different types of originals used in colour reproduction
- 9.) Know about colour and its importance
- 10.) Practice colour separation methods
- 11.) Analyse and apply different types of proofing system

- 12.) Understand how to measure the colour
- 13.) Compare the different types of originals used in colour reproduction
- 14.) Know about colour and its importance
- 15.) Practice colour separation methods
- 16.) Analyse and apply different types of proofing system
- 17.) Understand importance of planning layouts.
- 18.) Discuss imposition terms and classify different imposition schemes.
- 19.) Differentiate types of lithographic plates.
- 20.) Understand different computer technologies.
- 21.) Understand use of computer to plate technology.
- 22.) Understand and make report on Basic Anatomy of a Computer
- 23.) Compare the types of Desktop Publishing Software
- 24.) Distinguish between Scalar Image Editing Software
- 25.) Understand and make report on Menu Commands
- 26.) Differentiate types of Vector Graphic Editing Software.
- 27.) Identification of photo shop tools.
- 28.) Practicing of projects and layouts.
- 29.) Visit of designing workshop.
- 30.) Question on printing software.
- 31.) Conduct a Group discussion to be about the usefulness of the concerned section in printing software.
- 32.) Surprise test in each section of printing software.
- 33.) Creating Logos
- 34.) Designs with pencil tool
- 35.) Preparation of printing layout.
- 36.) Understanding about register mark and bleed mark.
- 37.) Knowing about imposition.
- 38.) Question on plate preparation..
- 39.) Conduct a Group discussion to be about the usefulness of the concerned section in plate making section.
- 40.) Surprise test in plate making section.
- 41.) Practicing on quality testing.
- 42.) Understanding about tonal adjustment.
- 43.) Knowing about under colour removal.
- 44.) Question on adjustment of input and output devices.
- 45.) Conduct a Group discussion to be about the usefulness of the concerned section in colour measurement.
- 46.) Surprise test in quality control.
- 47.) Paper Presentations
- 48.) Seminars
- 49.) Mock Interviews
- 50.) Telephonic Interviews
- 51.) Group Discussions
- 52.) Role Plays
- 53.) Creating advertisements
- 54.) Five-minute activities
- 55.) Creating a model of workplace