

CERTIFICATE  
OF  
VOCATIONAL EDUCATION  
EXAMINATION (YEAR12)



**SYLLABUS FOR**  
**PRINTING TECHNOLOGY TECHNICIAN**

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*Correspondence should be addressed to:*

**THE CHIEF EXECUTIVE & SECRETARY**  
**COUNCIL FOR THE INDIAN SCHOOL CERTIFICATE EXAMINATIONS**

P-35,36 Sector VI  
Pushp Vihar  
Saket  
New Delhi – 110017

The certificate course in **PRINTING TECHNOLOGY TECHNICIAN (PTT)** is equivalent to Class XII, having the added advantage of providing the students with a basic knowledge of Printing Technology.

A successful candidate has two options available to him/her:

1. To become a small entrepreneur and execute Printing Technology Contracts.
2. Find suitable employment in the Printing & Designing Industry.

A successful candidate, if interested, has a third option of taking up higher studies in Printing Technology by joining the Institution of Engineers (India) as a student member.

### **Eligibility Criteria:**

The eligibility criteria for taking admission in CVE 12 Examination are as follows:

1. Age: 16 to 25 years
2. Must have passed Class X Examination from a recognised board with English, Science and Mathematics as compulsory subjects

## CONTENTS

<b>S. No.</b>	<b>Topic</b>	<b>Page No.</b>
<b>1</b>	Subject Structure and Marking Scheme for Classes XI & XII	<b>4</b>
<b>CLASS XI</b>		
<b>2</b>	English	<b>6</b>
<b>3</b>	General Foundation, Industrial Sociology & Entrepreneurship	<b>7</b>
<b>4</b>	Applied Mathematics	<b>9</b>
<b>5</b>	Printing Technology – Paper I(Theory)	<b>13</b>
<b>6</b>	Fundamentals of Computer	<b>14</b>
<b>7</b>	Printing Technology – Paper II (Practical)	<b>18</b>
<b>CLASS XII</b>		
<b>8</b>	English	<b>22</b>
<b>9</b>	General Foundation, Industrial Sociology & Entrepreneurship	<b>23</b>
<b>10</b>	Printing Technology – Paper I(Theory)	<b>26</b>
<b>11</b>	Printing Technology – Paper II(Practical)	<b>27</b>

## CLASS XI – SUBJECT STRUCTURE & MARKING SCHEME

S. No.	NAME OF THE SUBJECT	Theory/Practical	Internal Assessment	External Assessment	Total Marks	Pass Criteria (%)
1	English	Theory	30	70	100	40
2	General Foundation, Industrial Sociology & Entrepreneurship	Theory	30	70	100	40
3	Applied Mathematics	Theory	30	70	100	40
4	Printing Technology – Paper I	Theory	30	70	100	40
5	Fundamentals of Computer	Practical	30	30 + 40	100	40
6	Printing Technology – Paper II	Practical	30	70	100	60

**Note:**

**FUNDAMENTALS OF COMPUTER** -There will a project of 30 marks and practical examination of 40 marks to be conducted by the Council.

## CLASS XII – SUBJECT STRUCTURE & MARKING SCHEME

S.No.	NAME OF THE SUBJECT	Theory/Practical	Internal Assessment	External Assessment	Total Marks	Pass Criteria (%)
1	English	Theory	30	70	100	40
2	General Foundation, Sociology & Entrepreneurship	Theory	30	70	100	40
3	Printing Technology – Paper I	Theory	30	70	100	40
4	Printing Technology – Paper II	Practical	30	70	100	60

**PRINTING TECHNOLOGY**  
**TECHNICIAN**

**SYLLABUS FOR CLASS XI**

**English  
Class XI**

**Examination Duration: 3 Hours**

<b>S. No.</b>	<b>Name of the Topic</b>	<b>No. of Hours</b>
	<b>GRAMMAR</b>	
<b>1</b>	<b>Sentences</b>	<b>6</b>
<b>2</b>	<b>Subject &amp; Predicate</b>	<b>6</b>
<b>3</b>	<b>Parts of Speech</b>	<b>20</b>
<b>4</b>	<b>Phrases &amp; Clauses</b>	<b>9</b>
<b>5</b>	<b>Simple, Compound &amp; Complex Sentences</b>	<b>10</b>
<b>6</b>	<b>Tenses</b>	<b>12</b>
<b>7</b>	<b>Formal Letter Writing</b>	<b>12</b>
	<b>LITERATURE</b>	
<b>1</b>	<b>The Eyes Have It</b>	<b>6</b>
<b>2</b>	<b>Job Hunting</b>	<b>6</b>
<b>3</b>	<b>Benjamin Franklin</b>	<b>6</b>
<b>4</b>	<b>The Martyr's Corner</b>	<b>6</b>
<b>5</b>	<b>Life History of Abdul Kalam</b>	<b>6</b>
<b>TOTAL NUMBER OF HOURS</b>		<b>105</b>

**General Foundation, Industrial Sociology and Entrepreneurship  
Class XI**

**Examination Duration: 3 Hours**

<b>S. No.</b>	<b>Name of the Topic</b>	<b>No. of Hours</b>
<b>1</b>	<b>Personality Development</b>	<b>13</b>
<b>2</b>	<b>Human and Industrial Relationship</b>	<b>15</b>
<b>3</b>	<b>Developing Coping Mechanism</b>	<b>15</b>
<b>4</b>	<b>Motivation</b>	<b>10</b>
<b>5</b>	<b>Professional Ethics</b>	<b>12</b>
<b>6</b>	<b>Developing Fitness for a Job</b>	<b>15</b>
<b>TOTAL NUMBER OF HOURS</b>		<b>80</b>

**1. Personality Development:**

- 1.1 Self-esteem
- 1.2 Self-concept
- 1.3 Self-acceptance

**2. Human and Industrial Relations:**

- 2.1 Human relations and performance in organisation
- 2.2 Understand self and others for effective behaviour
- 2.3 Behaviour modification techniques
- 2.4 Industrial relations and disputes
- 2.5 Relations with subordinates, peers & superiors
- 2.6 Characteristics of group behaviour and trade unions

**3. Developing Coping Mechanism:**

- 3.1 Coping with loneliness
- 3.2 Coping with depression
- 3.3 Coping with fear
- 3.4 Coping with shyness
- 3.5 Coping with anger
- 3.6 Coping with failure
- 3.7 Coping with criticism
- 3.8 Coping with conflicts

- 3.9 Coping with change
- 3.10 Coping with study
- 3.11 Substance abuse
- 3.12 Mass media

**4. Motivation:**

- 4.1 Factors determining motivation
- 4.2 Characteristics of motivation
- 4.3 Methods of improving motivation

**5. Professional Ethics:**

- 5.1 Concept of ethics
- 5.2 Concept of professionalism
- 5.3 Need for professional ethics

**6. Developing fitness for a job:**

- 6.1 Leadership
- 6.2 Team work
- 6.3 Career guidance
- 6.4 Work environment



**Applied Mathematics**  
**Class XI**

**Examination Duration: 3 Hours**

<b>S. No.</b>	<b>Name of the Topic</b>	<b>No. of Hours</b>
<b>1</b>	<b>Units</b>	<b>4</b>
<b>2</b>	<b>General Simplification</b>	<b>6</b>
<b>3</b>	<b>Ratio &amp; Proportion</b>	<b>4</b>
<b>4</b>	<b>Percentage</b>	<b>5</b>
<b>5</b>	<b>Algebra</b>	<b>12</b>
<b>6</b>	<b>Logarithm</b>	<b>6</b>
<b>7</b>	<b>Indices</b>	<b>8</b>
<b>8</b>	<b>Equations</b>	<b>14</b>
<b>9</b>	<b>Factorization</b>	<b>10</b>
<b>10</b>	<b>Properties of Triangle, Circle &amp; Polygons</b>	<b>6</b>
<b>11</b>	<b>Mensuration</b>	<b>20</b>
<b>12</b>	<b>Trigonometry (Ratio &amp; Identities)</b>	<b>10</b>
<b>TOTAL NUMBER OF HOURS</b>		<b>105</b>

**1. Units:**

- 1.1 Introduction
- 1.2 Definitions
- 1.3 Classification of units
- 1.4 Conversion of the basic mechanical units

**2. General Simplification:**

- 2.1 Introduction
- 2.2 Fractions & Decimal Fractions
- 2.3 LCM & HCF
- 2.4 Multiplication and division of decimals
- 2.5 Conversion of fraction from one to another

- 2.6 Multiplication of fraction with numbers like 10, 100, 1000
- 2.7 Some more methods of converting fractions

### **3. Ratio & Proportion:**

- 3.1 Ratio
- 3.2 Proportion
- 3.3 Relationship between Ratio & Proportion

### **4. Percentage:**

- 4.1 Introduction
- 4.2 Conversion of decimal to percentage and vice versa
- 4.3 Profit & Loss

### **5. Algebra:**

- 5.1 Introduction
- 5.2 Careful Consideration of subject items
- 5.3 Addition and Subtraction
- 5.4 Multiplication and Division
- 5.5 Algebraic formulae
- 5.6 Proofs

### **6. Logarithm:**

- 6.1 Introduction
- 6.2 Definition of different terms used in logarithms
- 6.3 Laws of Logarithm
- 6.4 How to refer to a log table
- 6.5 Negative characteristic
- 6.6 Relationship between log and antilog
- 6.7 How to refer to Antilog table
- 6.8 Rules while using logarithms
- 6.9 Addition, subtraction, multiplication & division using indices

### **7. Indices:**

- 7.1 Exponent and multiplication
- 7.2 The laws of indices
- 7.3 Zero and negative integral indices
- 7.4 Fractional Indices
- 7.5 Exponential Equations

## **8. Equations:**

- 8.1** Equations & Root
- 8.2** Solving linear equation with one variable
- 8.3** Solving problems using equations
- 8.4** Number Problems, Age Problems, Mensuration Problems
- 8.5** Solving simultaneous linear equation
- 8.6** Method of elimination by addition and subtraction
- 8.7** Word problem involving simultaneous equation
- 8.8** Quadratic Equations – Problems on Quadratic Equation

## **9. Factorization:**

- 9.1** Factorizing polynomials
- 9.2** Factorization of a perfect square trinomial – e.g.  $(4x^4 + 12x^2 + 9)$
- 9.3** Factorizing the difference of two squares
- 9.4** Trinomials
- 9.5** Factorization using the middle term factor
- 9.6** Problem solving based on factorization

## **10. Properties of Angle, Triangle, Circle and Polygons:**

- 10.1** Introduction
- 10.2** Different properties related to the angular properties of the triangle
- 10.3** Different types of triangles
- 10.4** Median and Altitudes
- 10.5** Mid-Point theorem of the triangle
- 10.6** Circle - Elements
- 10.7** Properties of the circle – Arc, Sector, Segment, Chord, Tangent
- 10.8** Polygons – Types and Features
- 10.9** Method of finding the internal and external angle of polygons

## **11. Mensuration:**

- 11.1** Introduction to the topic
- 11.2** Formulae for various Plane and irregular figures (Area, perimeter and volume)
- 11.3** Area and Perimeter of Plane Figures like Rectangle, Square, Area of four walls, Triangle, Parallelograms, Rhombus, Trapezium, Circle
- 11.4** Surface area of different solid figures
- 11.5** Volume of different Solid figures
- 11.6** Volume of the metal that is removed from different machining process

## **12. Trigonometry:**

- 12.1** Introduction to Trigonometry
- 12.2** Notation for angle
- 12.3** Trigonometrical Ratio
- 12.4** Reciprocal ratios
- 12.5** Understanding of the different sides of the triangle based on the given angle
- 12.6** Understanding the use of Trigonometrical tables for finding different angles

**Printing Technology – Paper I**  
**Class XI**

**Examination Duration: 3 Hours**

<b>S. No.</b>	<b>Name of the Topic</b>	<b>No. of Hours</b>
<b>1</b>	<b>History of Printing</b>	<b>2</b>
<b>2</b>	<b>Introduction to Basic Printing Processes</b>	<b>4</b>
<b>3</b>	<b>Printing Machine in General</b>	<b>2</b>
<b>4</b>	<b>Printing Materials</b>	<b>3</b>
<b>5</b>	<b>Computer Application in Printing</b>	<b>3</b>
<b>6</b>	<b>Binding and Finishing</b>	<b>4</b>
<b>7</b>	<b>Printing Machine (Offset, Gravure) (Sheet fed &amp; Web)</b>	<b>10</b>
<b>8</b>	<b>Printing Inks Quality, Types, Ink mixing</b>	<b>5</b>
<b>9</b>	<b>Paper Technology</b>	<b>5</b>
<b>10</b>	<b>Screen Printing</b>	<b>5</b>
<b>11</b>	<b>Printing Planning Layouts</b>	<b>5</b>
<b>12</b>	<b>Film Assembly &amp; Plate Making</b>	<b>4</b>
<b>13</b>	<b>Packaging Technology</b>	<b>2</b>
<b>TOTAL NUMBER OF CLASSES</b>		<b>54</b>

**Fundamentals of Computer  
Class XI**

**Examination Duration: 3 Hours**

<b>S. No.</b>	<b>Name of the Topic</b>	<b>No. of Hours</b>
<b>1</b>	<b>Introduction to Computer</b>	<b>5</b>
<b>2</b>	<b>Number System</b>	<b>8</b>
<b>3</b>	<b>Operating System</b>	<b>4</b>
<b>4</b>	<b>Introduction to MS Office</b>	<b>2</b>
<b>5</b>	<b>Microsoft Word</b>	<b>10</b>
<b>6</b>	<b>Microsoft Excel</b>	<b>16</b>
<b>7</b>	<b>Microsoft Power Point</b>	<b>4</b>
<b>8</b>	<b>Internet &amp; Security</b>	<b>8</b>
<b>9</b>	<b>Project Work</b>	<b>8</b>
<b>TOTAL NUMBER OF HOURS</b>		<b>65</b>

**1. Introduction to Computer:**

- 1.1 Introduction & application of computers
- 1.2 History of the Computer – Evolution and generation of computers
- 1.3 Hardware & Software
- 1.4 Different Hardware devices with physical demonstration
- 1.5 Different types of software used with their areas of application
- 1.6 Storage devices – Evolution and its application in modern technology
- 1.7 Characteristics of the computer
- 1.8 Organization of the computer
- 1.9 Basic operation carried out by the computer
- 1.10 Understanding the day to day application of the computer

**2. Number System:**

- 2.1 Introduction to the number system

- 2.2 Types of number systems used – Decimal, Binary, Octal and Hexadecimal
  - 2.3 Conversion from Decimal to Binary and vice-versa
  - 2.4 Conversion of Decimal to Octal and Vice-Versa
  - 2.5 Conversion of Decimal to Hexadecimal and Vice-Versa
  - 2.6 Conversion of Fractional Decimal to Binary, Octal and Hexadecimal
  - 2.7 Logic Gate – Not, Or, And
3. **Operating System:**
- 3.1 Introduction about Operating System and its uses
  - 3.2 Types of Operating System used
  - 3.3 Application of Operating System in our computer
  - 3.4 Method of Installing the Operating System
  - 3.5 Method of partitioning the Hard Disk during the installation of the Operating System
  - 3.6 Advantages & Comparisons of different types of Operating Systems
4. **Introduction to MS Office:**
- 4.1 Introduction to Microsoft Office Package
  - 4.2 Different applications available in the package
  - 4.3 Advantages and application of different applications available
  - 4.4 An overview on the available applications – MS Word, Excel, PowerPoint, Access, Outlook
  - 4.5 Process of Opening the Microsoft Office Package from the START BUTTON
5. **Microsoft Word:**
- 5.1 Introduction
  - 5.2 Procedure of opening the Microsoft word Application
  - 5.3 Introduction to the Microsoft Word Screen/Page
  - 5.4 Understanding different options available
  - 5.5 Understanding different context menus available on the page with their application
  - 5.6 Understanding the **OFFICE BUTTON** – New, Open, Save, Save As, Print, Prepare, Publish, Close, Word Options, Recent Documents
  - 5.7 Understanding the **HOME** Menu – Clipboard Option, Font Options, Paragraph, Styles
  - 5.8 Understanding the **INSERT** Menu – Pages, Tables, different methods of inserting pictures, Links, Header & Footer, Text Formatting, Symbols
  - 5.9 Understanding the **PAGE LAYOUT** Menu – Different themes, Page Setup, Page Background, Paragraph Indentation, Alignment,
  - 5.10 Understanding the complete process of Mail Merge (Letter)
  - 5.11 Understanding the Concept of viewing the pages in different styles, New windows, Split page option
  - 5.12 Practical work on the above content

## 6. Microsoft Excel:

- 6.1 Introduction
- 6.2 Procedure of opening the Microsoft Excel Application
- 6.3 Introduction to the Microsoft Excel Screen/Page
- 6.4 Understanding different options available
- 6.5 Understanding the method of renaming, adding and removing the sheet
- 6.6 Understanding the method of copying and moving the sheet
- 6.7 Understanding different short cuts used on the application
- 6.8 Understanding the **HOME** menu – Clipboard Options, Font Options, Paragraphs, Styles
- 6.9 Understanding the **INSERT** Menu – Table Creation, different methods of inserting pictures & shapes, charts, links and methods of formatting the text
- 6.10 Understanding the **PAGE LAYOUT** Menu – Themes, Page setup, Scale, Sheet Options, Alignment
- 6.11 Understanding the **FORMULAS** Menu – Insert function, Function Library (Auto Sum, Logical, Text, Lookup, Date & time)
- 6.12 Conditional Formatting
- 6.13 Basic Menu options like View, Data and Review
- 6.14 Practical work on the above content

## 7. Microsoft PowerPoint:

- 7.1 Introduction
- 7.2 Procedure of opening the Microsoft Power Point Application
- 7.3 Introduction to the Microsoft Power Point Screen/Page
- 7.4 Understanding different options available
- 7.5 Understanding different shortcuts used for the application
- 7.6 Understanding the **HOME** Menu – Clipboard, Slides, Font, Paragraph indentation, drawing tools, find & replace
- 7.7 Understanding the **INSERT** Menu - Table Creation, Different methods of inserting pictures & shapes, Charts, Link, method of formatting the text & methods of inserting movie clip & audio in the slide
- 7.8 Understanding the **DESIGN** Menu – Page Setup, different themes to be used as the background of the slides, colours, fonts, effects, background style
- 7.9 Understanding the **ANIMATION** Menu – Custom Animation, different transition options for the slides, background music, transition speed, slideshow option (on mouse click or after time interval that is set)
- 7.10 Understanding the **SLIDE SHOW** Menu – Start & End of the slide show, slide show setup, monitoring the resolution and other factors
- 7.11 Understanding various options like Review and View
- 7.12 A presentation to understand the different options available in the application



**8. Internet & Security:**

- 8.1** Introduction to Internet & Security
- 8.2** Different types of connections that can be established in the system
- 8.3** Uses, advantages and disadvantages of the Internet
- 8.4** Security – Definition & Goals
- 8.5** Basic ISP (Internet Service Providers) Infrastructure
- 8.6** Virus – Definition and its different types
- 8.7** Firewall – Definition and applications
- 8.8** Understanding the basic security measures

**9. Project Work**

The students will prepare a project work using the concepts taught in the 'Fundamentals of Computer'.

**Printing Technology – Paper II**  
**Class XI**

**Examination Duration: 3 Hours**

<b>S. No.</b>	<b>Name of the Topic</b>	<b>No. of Hours</b>
<b>1</b>	<b>5 S – Workshop</b>	<b>50</b>
<b>2</b>	<b>Recognition of different Printing Processes</b>	<b>10</b>
<b>3</b>	<b>Identification of different tools &amp; equipment used</b>	<b>15</b>
<b>4</b>	<b>Schematic diagram of various Printing Processes</b>	<b>10</b>
<b>5</b>	<b>Cleaning an Image carrier of Printing Machines</b>	<b>5</b>
<b>6</b>	<b>Clamping &amp; Removing an Image carrier</b>	<b>10</b>
<b>7</b>	<b>Study of various parts of feeding units of the Printing Machine</b>	<b>15</b>
<b>8</b>	<b>Study of various parts of Delivery units of the Printing Machine</b>	<b>10</b>
<b>9</b>	<b>Study of various rollers in the inking units of Printing Machines</b>	<b>10</b>
<b>10</b>	<b>Study of various rollers in dampening units of Offset Machine</b>	<b>10</b>
<b>11</b>	<b>Substrate loading &amp; setting feeder of Printing Machines</b>	<b>15</b>
<b>12</b>	<b>Study of side lay &amp; front lay of Printing Machines</b>	<b>5</b>
<b>13</b>	<b>Study of colour registration of Printing Machines</b>	<b>10</b>
<b>14</b>	<b>Study of single Colour Printing</b>	<b>15</b>
<b>15</b>	<b>Study of cleaning the Printing Machine after completion of work</b>	<b>10</b>
<b>TOTAL NUMBER OF HOURS</b>		<b>200</b>

**PRINTING DESIGN**

**TECHNICIAN**

**SYLLABUS FOR CLASS XII**

**English  
Class XII**

**Examination Duration: 3 Hours**

<b>S. No.</b>	<b>Name of the Topic</b>	<b>No. of Hours</b>
	<b>GRAMMAR</b>	
<b>1</b>	<b>Direct &amp; Indirect Speech</b>	<b>18</b>
<b>2</b>	<b>Phrases &amp; Idioms</b>	<b>8</b>
<b>3</b>	<b>Letter Writing (Informal)</b>	<b>11</b>
<b>4</b>	<b>Report Writing, Essay Writing &amp; Precis Writing</b>	<b>15</b>
<b>5</b>	<b>Comprehension &amp; Story Writing</b>	<b>13</b>
	<b>LITERATURE</b>	
<b>1</b>	<b>Wright Brothers</b>	<b>8</b>
<b>2</b>	<b>Jamshedji Tata</b>	<b>8</b>
<b>3</b>	<b>Solar Energy</b>	<b>8</b>
<b>4</b>	<b>Thomas Edison</b>	<b>8</b>
<b>5</b>	<b>Henry Ford</b>	<b>8</b>
	<b>TOTAL NUMBER OF HOURS</b>	<b>105</b>

**General Foundation, Industrial Sociology and Entrepreneurship  
Class XII**

Examination Duration: 3 Hours

S. No.	Name of the Topic	No. of Hours
1	The Constitution of India	5
2	An Ideal Supervisor	5
3	Industrial Safety, First Aid and Hygiene	10
4	Entrepreneurship	10
5	Labour Laws	16
6	Environmental Science	10
7	Estimation & Costing	12
8	Project Plan	12
<b>TOTAL NUMBER OF HOURS</b>		<b>80</b>

**1. The Constitution of India:**

- 1.1. Salient Features
- 1.2. Preamble to the Constitution
- 1.3. Fundamental Duties
- 1.4. Directive Principles of State Policy
- 1.5. Difference between Fundamental Rights and Directive Principles

**2. An Ideal Supervisor:**

- 2.1 Qualities of an ideal supervisor

**3. Industrial Safety, First Aid and Hygiene:**

- 3.1. Concept of Safety
- 3.2. Safety Consciousness
- 3.3. Necessity of safety
- 3.4. Safety Measures

#### **4. Entrepreneurship:**

- 4.1. Introduction
- 4.2. Definition of Entrepreneurship
- 4.3. Need for Self-Employment
- 4.4. Advantages of Entrepreneurship
- 4.5. Roles and responsibilities of an Entrepreneur
- 4.6. Qualities of a good Entrepreneur

#### **5. Labour Laws:**

- 5.1. Factories Act 1948
- 5.2. Apprentices Act
- 5.3. Employees State Insurance (ESI) Act
- 5.4. Payment of Wage Act 1936
- 5.5. Minimum Wages Act & Rules
- 5.6. Employees Provident Fund Act (EPF)
- 5.7. Workmen's Compensation Act

#### **6. Environmental Science:**

- 6.1 Effect of pollution on Human Health
- 6.2 Impact of technology on Environment
- 6.3 Impact of pollution on Environment
- 6.4 Waste Management

#### **7. Estimation & Costing:**

- 7.1 Introduction to Estimation and Costing
- 7.2 Importance and Aims of Estimation & Costing
- 7.3 Functions of Estimating Department
- 7.4 Qualities of an Estimator
- 7.5 Estimating Procedures and Errors in Estimation
- 7.6 Constituents of Estimation
- 7.7 Advantages of Standard Costing
- 7.8 Differences between Estimation and Costing
- 7.9 Procedures of Costing & Costing methods
- 7.10 Cost Control and Advantages of Efficient Costing
- 7.11 Elements of Cost
- 7.12 Components of Cost and the process of calculating material cost & labour cost
- 7.13 Block diagram of Components of Cost
- 7.14 Methods of calculating indirect expenses and depreciation cost
- 7.15 Repairs and Maintenance Costing
- 7.16 Basic numerical on Estimation and Costing

## **8. Project Plan:**

- 8.1** Introduction
- 8.2** Definitions of Working Capital, Fixed Capital, Budget
- 8.3** Market Survey
- 8.4** Project Planning
- 8.5** Project Capacity
- 8.6** Selection of Site and Plant Layout
- 8.7** Product design and development
- 8.8** Factors considered while designing a product
- 8.9** Product drawings and design specification
- 8.10** Product Development
- 8.11** Material Requirement
- 8.12** Operation Planning
- 8.13** Equipment Requirement
- 8.14** Material Handling
- 8.15** Break-Even Point
- 8.16** Preparation of Project

**Printing Technology – Paper I**  
**CLASS XII**

**Examination Duration: 3 Hours**

<b>S. No.</b>	<b>Name of the Topic</b>	<b>No. of Hours</b>
<b>1</b>	<b>Digital Printing</b>	<b>4</b>
<b>2</b>	<b>Printing Machinery Maintenance</b>	<b>5</b>
<b>3</b>	<b>Advance Offset Printing</b>	<b>16</b>
<b>4</b>	<b>Newspaper Technology</b>	<b>6</b>
<b>5</b>	<b>Press Management</b>	<b>6</b>
<b>6</b>	<b>Printing Costing and Estimating</b>	<b>8</b>
<b>7</b>	<b>New Technology in Printing</b>	<b>5</b>
<b>8</b>	<b>Quality Control</b>	<b>4</b>
<b>TOTAL NUMBER OF HOURS</b>		<b>54</b>



**Printing Technology-Paper II**  
**Class XII**

**Examination Duration: 3 Hours**

<b>S. No.</b>	<b>Name of the Topic</b>	<b>No. of Hours</b>
<b>1</b>	<b>5 S – Workshop</b>	<b>40</b>
<b>2</b>	<b>Introduction to Offset Printing Machines &amp; Study of various parts, controls, operations, mechanism &amp; lubrication system</b>	<b>10</b>
<b>3</b>	<b>Study of feeding / delivery, dampening &amp; inking system of sheet fed / Web Fed Offset Machines</b>	<b>5</b>
<b>4</b>	<b>Preparation image carrier, clamping in machine, registering colours &amp; sheet / web offset printing press</b>	<b>10</b>
<b>5</b>	<b>Pre-make-ready &amp; Make-ready of the sheet / web Offset Machine</b>	<b>5</b>
<b>6</b>	<b>Setting of dampening, inking units &amp; blanket, plate &amp; transfer cylinders of sheet / web offset printing machine</b>	<b>10</b>
<b>7</b>	<b>Study of ink drying mechanism, paper pile preparation, control of water &amp; ink during running sheet /web offset presses</b>	<b>5</b>
<b>8</b>	<b>Study of web control &amp; operations of folding web offset machine</b>	<b>5</b>
<b>9</b>	<b>Trouble shooting during printing of sheet / web offset printing machine</b>	<b>5</b>
<b>10</b>	<b>Study of heat-set, inks &amp; chilling silicon coating system of heat set Offset Presses</b>	<b>10</b>
<b>11</b>	<b>Study of single, double &amp; multi color jobs of sheet / web / heat - set web Offset Printing Machines</b>	<b>10</b>
<b>12</b>	<b>Study of parts, stencil preparation, process of printing &amp; operation of manual, semi-automatic &amp; fully automatic silk screen printing machines</b>	<b>10</b>
<b>13</b>	<b>Study of various tools, inks, coatings &amp; trouble shooting during printing of silk screen printing machine</b>	<b>5</b>

14	Introduction of various parts, Preparing image career, plate mounting, Registering & Make ready of flexography machine	5
15	Study of various parts of feeding & Delivery units of printing machine	5
16	Study of inking units, Printing – single color, two color four color & Modern technology of flexography machine	10
17	Study of plate/ cylinder preparation & Colour registration of gravure printing machines	5
18	Study of various parts of gravure printing study single and multicolor printing gravure press	5
19	Pre-make-ready & Make-ready the gravure printing machine	5
20	Study of feeding unit, delivery & inking units of sheet / web gravure machine	5
<b>TOTAL NUMBER OF HOURS</b>		<b>170</b>