

**SYLLABUS FOR DIRECT RECRUITMENT OF SR. INSTRUCTOR (DTPO), GROUP-'C' , NON-GAZETTED UNDER  
THE DEPARTMENT OF INDUSTRIES AND COMMERCE, GOVT. OF TRIPURA**

The Examination will comprise of Two successive stages viz. (i) Written Examination (Multiple Choice Type Test) carrying 170 marks and (ii) An Interview cum Personality Test carrying 30 marks.

**(A) Scheme of the Written Examination:** The Written Examination will consist of one paper viz. a paper on "General knowledge & Current Affairs" and "Trade Aptitude". The paper will be of an Objective Type consisting of 170 Multiple- Choice Question. The paper will carry 170 marks and will be of Two and a half (2½) hours duration. The paper consist of Two Parts, namely 1) Part-I General knowledge & Current Affairs (50 questions of 01 marks each) ii) Part-II " Trade Aptitude" (120 questions of 01 marks each). There will be Negative marks for MCQ. For each question for which a wrong answer has been given by the candidate, **one-fourth** of the marks assigned to that question will be deducted as penalty.

**(B) Details Syllabus for the Written Examination:**

**PART-I GENERAL KNOWLEDGE & CURRENT AFFAIRS**

**General knowledge :** Question will include knowledge of Indian History , Geography & Constitution of India of such a nature which the candidate shall able to answer without any special study. Question on Tripura and North Eastern States, its historian Topography will also be included.

**Knowledge of Current Affairs :-**Question will include the knowledge of current events of Local, National & International important and of such matters of everyday observation and experiences in their scientific aspect as may be expected of an educated person who has not made a special study of any scientific subjects.

**PART-II TRADE APTITUDE**

**1. Introduction to printing process:**

Evolution of Printing - Invention of movable wooden and metal type printing.- Lithography- Offset Printing-Intaglio Gravure-Flexography- Screen Printing Digital Printing  
Structure of Printing Industry- Pre-media, Prepress - Film reproduction, Image assembly, Plate making and Digital prepress, Press and Post Press Sections Flow chart.  
Applications of Printing Process – Offset, Intaglio, Gravure, Flexography, Screen Printing and Digital printing.

**2. Principles of Printing Processes:**

Basic Principles of Letterpress, Offset, Flexography, Gravure, Screen Printing and Digital Printing .  
Advantages and Limitations of Printing process- Letterpress, Offset, Flexography, Gravure and Screen Printing.

**3. Classification of Offset Printing Machines:**

Classification of Offset Machines- Sheet fed and Web fed Offset machines, Basic configuration of sheet fed offset machine. Single colour sheet-fed offset press, Multi colour sheet-fed press, Offset perfecting press and small offset press. Classification of web offset Machines In-line web offset press, Blanket- to blanket web offset press and Satellite type web offset press.

#### 4. Flexography Printing:

Basic configuration of flexography machine. Types of flexography machine - In-line- type flexography press, Stack type flexography press and Satellite of flexography in Food packaging.

#### 5. Gravure & Screen Printing:

Classification and types of Gravure machine- Gravure printing unit, printing cylinder, Doctor Blade and Impression cylinder. Screen printing machine – parts of screen printing press. Types of screen printing machines – Flat –bed hinged frame machines, Flat- bed vertical lift machines, Cylinder-bed machines, Container printing machines and Rotary screen machines.

#### 6. Printer's Material Science:

- Photographic Materials and Chemistry of Photography- Knowledge on photographic materials and chemistry of photography, knowledge of photographic emulsion and film base, film exposure, development bath and fixing bath, chemistry of washing.
- Image carriers - offset plate making, gravure cylinder making, flexographic plate making, screen printing process, use of computer.
- Printing Inks and Toners : knowledge of printing inks and toners, its nature, raw materials used in ink, classification and differences of ink, physical properties, rheological properties, problems encountered in ink, toners
- Colour science - basic concept, perception, types of colours, attributes of colour, colour differences and management.
- Basics of paper: constituent raw materials, properties of paper structural, physical, strength, optical, resistance, required characteristics of paper for news paper, package printing, troubleshooting and waste management.
- Packaging materials - definition, materials used, properties, material selection, lamination and testing.

#### 7. Graphic Design:

- Knowledge on configuration of a computer, the hardware, peripheral devices, different graphic software.
- Concept of phototypesetting, principles of phototypesetting and processing method, conversion from photomechanical to electromechanical & finally to digital method.
- Knowledge on basics of different printing methods- laser , dot-matrix, ink-jet, thermal, image setter. Their components and functions.
- Knowledge on scanner technology, type of scanner, processing methods, image processing, optical/ magnetic character reader
- Concept of image resolution, gray scale, colour resolution, pixels, device resolution. CO-6 Understand.
- Knowledge on image acquisition, scanning lines and resolutions, image size, editing images, unsharp mask.

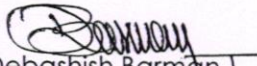
#### 8. Fundamentals of Computer application:

Introduction to Computers: Generation of computers, Characteristic and classifications of computers. Components of Computer: CPU, Various I/O Devices, Memory & its types , (Memory Hierarchy, Storage Media), Computer Software and their types, Operating System.

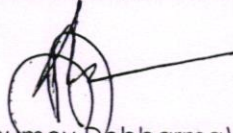


(C) **Interview cum Personality Test:** A limited no. of candidates, maximum 5(five) times of total posts (in category wise) will be selected merit wise on the basis of the result of the Written Examination, subject to securing minimum qualifying marks (50% for UR candidates, 45% for Scheduled Castes candidates and 40% for Scheduled Tribes category candidates) or otherwise as fixed by the Departmental Selection Committee. **The total marks for the Personality Test will be 30.** If a candidate remains absent in the personality Test, his/her candidature will be treated as cancelled. Final Merit List will be prepared on the basis of the total marks obtained in the Written Examination and marks obtained in the Personality Test.

**Signature of the Committee Members**



(Debashish Barman)  
Member  
Principal, WITI, Indranagar



(Sri Anumoy Debbarma)  
Member  
Principal, ITI, Indranagar



(Sri Siddhartha Das)  
Member  
Asst. Professor, TIT Narsingarh



Representative of NIT, Agartala  
Member



(Sri Tapan Das)  
Member  
Manager (Credit), Directorate of  
(I&C)



(Sri Subash Ch. Das)  
Chairman  
Addl. Directorate of (I&C)