JAMMU AND KASHMIR PUBLIC SERVICE COMMISSION
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Subject: **Filling up of post of (Assistant Manager) in the ARI and Training Department, UT of Jammu & Kashmir.**

Ref: No. ARI-Estt/12/2025-01(CC-7643649) dated: 13.5.2025.

Notification No: 17 - PSC (DR-P) OF 2025
Dated : 18-12-2025

Online applications are invited from domiciles of the Union Territory of Jammu & Kashmir, possessing the prescribed Academic /Professional qualification and age for (01) post of Assistant Manager in ARI and Training Department under OM category, [pay level-8 47600-151100] in terms of the Jammu & Kashmir, Press (Gazetted) Service Recruitment Rules, 2008, notified vide SRO-123 dated 13.5.2008 and the Jammu and Kashmir Public Service Commission (Business and Procedure) Rules, 2021,as amended upto date.

IMPORTANT INSTRUCTIONS

- APPLICANTS ARE ADVISED TO UPDATE THEIR ONE TIME REGISTRATION BEFORE FILLING THE APPLICATION FORM.
- THE APPLICATION FORM TOGETHER WITH INSTRUCTIONS FOR FILLING UP THE APPLICATIONS FORMS WILL BE AVAILABLE ON THE WEBSITE OF THE COMMISSION FROM **22.12 .2025.**
- APPLICANTS ARE ADVISED TO GO THROUGH THE INSTRUCTIONS AND ALL THE ELIGIBILITY CONDITIONS PRESCRIBED FOR THE POST BEFORE FILLING UP THE ONLINE APPLICATION FORM.
- LAST DATE FOR FILLING UP OF ONLINE APPLICATION FORM COMPLETE IN ALL RESPECTS (INCLUDING UPLOADING OF THE REQUISITE DOCUMENTS) ALONGWITH THE REQUISITE FEE (ONLINE MODE ONLY) IS **21.01 .2026.**
- THE LAST DATE FOR RECEIPT OF ONLINE APPLICATIONS PROVIDED IN THE NOTIFICATION SHALL BE THE CUT-OFF DATE FOR DETERMINING THE ELIGIBILITY AS REGARDS ACQUISITION OF EDUCATIONAL/PROFESSIONAL QUALIFICATION OR ANY OTHER CERTIFICATE ON THE BAISIS OF WHICH ANY RESERVATION IS CLAIMED, NOTWITHSTANDING ANY EXTENSION IN THE LAST DATE OF SUBMISSION OF APPLICATIONS.
- THE MINIMUM AND MAXIMUM AGE WILL HOWEVER BE RECKONED WITH REFERENCE TO **1ST JANUARY, 2025.**
- APPLICANTS CAN EDIT SOME OF THE FIELDS IN THEIR ONLINE APPLICATION FORM W.E.F **22.01 .2026 TO 24.01 .26.** INSTRUCTIONS IN THIS REGARD WILL BE SEPERATELY MADE AVAILABLE ON THE WEBSITE.
- APPLICANTS ARE REQUIRED TO UPLOAD ALL THE MANDTORY PRESCRIBED/REQUISITE DOCUMENTS ALONGWITH THE ONLINE APPLICATION FROM.
- AN APPLICANT SEEKING CONSIDERATION UNDER ANY RESERVED CATEGORY MUST ENSURE THAT HE/SHE POSSESS THE REQUISITE CATEGORY CERTIFICATE VALID ON THE CUT OF DATE AND THE SAME IS REQUIRED TO BE UPLOADED WHILE SUBMITTING ONLINE APPLICATION. IT MAY BE NOTED THAT NO FURTHER OPPORTUNITY TO UPLOAD ANY DOCUMENT SHALL BE PROVIDED AFTER THE CUT OF DATE AND ACTION UNDER RULES INCLUDING REJECTION OF APPLICATION/CANDIDATURE MAY BE TAKEN.
- THE CERTIFICATE MUST BE IN THE FORMAT PRESCRIBED IN THE RULES AS APPLICABLE.
- APPLICANTS WILL NOT BE REQUIRED TO SUBMIT A HARD COPY OF THE ONLINE APPLICATION FORM OR ANY OTHER DOCUMENTS TO THE COMMISSION AT THE TIME OF FILLING UP ONLINE APPLICATION FORM.

- THE APPLICANT WILL HOWEVER BE REQUIRED TO PRESENT/PRODUCE A DOWNLOADED COPY OF THE ONLINE APPLICATION FORM ALONGWITH THE ORIGINAL CERTIFICATES AT THE TIME OF DOCUMENT VERIFICATION.
- APPLICANTS ARE ADVISED IN THEIR OWN INTEREST TO SUBMIT ONLINE APPLICATIONS MUCH BEFORE THE CLOSING DATE AND NOT WAIT TILL THE LAST DATE TO AVOID THE POSSIBILITY OF DISCONNECTION/INABILITY TO PAY FEE OR FAILURE TO LOGIN TO THE ONLINE APPLICATION PORTAL ON ACCOUNT OF HEAVY LOAD ON THE WEBSITE DURING THE CLOSING DAYS.

2. Prescribed Qualification

Post	Academic Qualification
Assistant Manager	Degree in Printing Technology from a recognized University. OR Three Years Diploma in Printing Technology from a recognized Board of Technical Education

3. **Age as on 1st January 2025**

S.No.	Category	Age limit in years	Not born after	Not born before
1	OM	40	01.01.2007	01.01.1985
2	In service candidate	40	01.01.2007	01.01.1985
3	Physical Challenged	42	01.01.2007	01.01.1981

NOTE:
i.   The candidate should be domicile of J&K UT.
ii. The candidates who are already in government service and intended to apply as in-service candidates shall, besides applying online, route their application form attested by Head of the Department through their Administrative Department.

4. **Requisite Fee**

   After successful submission of the online application form, candidate will be required to deposit requisite fee through online mode. The amount of fee to be paid is given below:

General Category	**=**	**Rs.1200.00**
PHC Candidates	**=**	**Nil.**

Note:

1. Submission of multiple applications by way of prefixing Mr/Ms or through generation of multiple User ID's or any other mode, followed by either non-payment of fee particulars or fee particulars (TID) of one application (RID) being mentioned against another application with a different RID would lead to rejection of the online application. The applicants who are submitting multiple applications should note that only the applications with higher Registration ID (RID) number shall be entertained by the Commission and fee paid against one RID shall not be adjusted against any other RID number. Besides a strict disciplinary action shall be taken including the cancellation of

candidature and debarment for future examinations of J&K PSC will be taken against such applicants.

2. The application Form submitted without deposition of the fee, which gets substantiated through reflection of the same on the application form, shall be treated as incomplete and candidature shall be deemed to have been rejected without any notice. No representation against such rejection shall be entertained

5. **Centre of Examination**

i. The examination will be held at Srinagar & Jammu centres. All the candidates shall indicate the option for examination centre as indicated above.

ii. The allotment of centres shall be at sole discretion of the Commission and once a centre is allotted to a candidate, request for a change of centre will not be entertained.

iii. Information about the Examination indicating the time table and Centre of Examination for the candidates will be uploaded on the websites of the Commission about two weeks before the date of examination. If any candidate does not find his/her Roll Number on the website of the Commission, one week before the date of examination, he/she must immediately contact the Commission's Office at Srinagar/Jammu, with proof of having submitted his/her application. Failure to do so will deprive him/her of any claim for consideration.

iv. Candidate must submit his/her online application form, Email ID and Mobile Number along with his/her Name, Date of Birth and Name of the Examination, while addressing any communication to the Commission. Communication from the candidates not furnishing these particulars shall not be entertained.

v. Admit Cards will be available for downloading about two weeks before the date of examination on the official website of the Commission i.e. jkpsc.nic.in. Candidate must bring printout of the Admit Card/Roll Number Slip to the Examination Hall.

vi. For securing entry into the centre of examination, in addition to the Admit Card/roll Number Slip, it is mandatory to carry at least two passport size recent color photographs (not taken earlier than 01.01.2025) and any of the original valid Photo-Id proof such as:

vii. Aadhar Card/ E-Aadhar,

viii. Voter's ID Card,

ix. Driving License,

x. PAN Card,

xi. Passport,

xii. School /College/University I- Card

xiii. Employer ID Card.

6. **Documents to be uploaded**

While filing the online application form the applicants are required to upload the documents as per details given below:

a) Documents (Mandatory):-

i. Date of Birth certificate (Secondary School/Matric Certificate- 01 leaf.

ii. Domicile certificate – 01 leaf.

iii. Degree alongwith consolidated marks card. (02 leaves)
iv. Three Years Diploma in Printing Technology.
v. Post Graduation Degree alongwith consolidated marks card.

b) **Documents (Mandatory) if claiming benefit under that category):-**

i) In-Service Certificate Signed by HOD.

c) Any other document for which the candidate is claiming weight age as per   Provisions laid down in J&K (Business and Procedure) Rules, 2021:-

NCC ("C Certificate)/NSS (National Level two camps)

7. Scheme of Selection

The selection shall be made in terms of Rules 43(ii) of the J&K Public Service Commission (Business & Procedure) Rules, 2021, updated vide Notification No. 05-PSC(DR-P) of 2023 dated 09.02.2023. The candidates are advised to acquaint themselves with the said Rule. The Syllabus for the post is appended with the notification as "Annexure A".

8. Important instructions regarding filling up of online applications are given herein below:

a. Candidates are required to apply online through the website of the Commission i.e. http://www.jkpsc.nic.in. No other means/ mode of application shall be accepted.

b. Candidates are first required to go to the JKPSC website www.jkpsc.nic.in and click on the link "One Time Registration" or click on Login menu if you have already created your profile with the JK PSC.

c. After logging into your account, candidates are required to fill all the requisite fields of One Time Registration (OTR) i.e. personal information, contact information & educational qualification, service details etc.

d. The candidate shall also be required to upload the image of date stamped recent passport size color photograph and signature. The photograph should not be taken earlier than 01.01.2025.

e. Size of the photograph (passport size) and signature must be between 10kB to 20kB in *.jpeg or *.jpg only.

f. After successful submission of all the details in your OTR account, check the eligibility conditions as mentioned in the advertisement notification before applying for the post.

g. Click on the "show examination" as shown against the respective post/examination you want to apply.

h. On Clicking on the "show examination" a window will appear on your computer screen. Select the month of the advertisement notification for which you want to apply, a link(s) for the post(s) will appear on the computer screen.

i. An "APPLY" button is shown against the respective post and the candidates will click on the APPLY button against the post he/she is eligible.

j. On clicking "APPLY" button, an instruction window will appear. Candidates should read instructions carefully before clicking on "APPLY" button at the bottom of the webpage.

k. On clicking "APPLY" button, the system will display all facts/particulars that a candidate may have mentioned while filling up the necessary fields of his/her OTR account. Candidate shall fill up the remaining required fields in the application form and accept the declaration thereof.

l. Once the candidate is satisfied *about the correctness* of the filled in details, then, he or she may click on "SUBMIT" button to finally push the data into server with successful submission report.

m. On successful submission of the basic details, the candidates will be required to pay the online fee and uploading of the documents, for final submission of the online application form.

n. Candidates can pay the requisite fee through online mode in the "SUBMITTED APPLICATIONS" menu in your account.

o. After successful payment of the fee, the fee status will get reflected on the Online Application form. Candidates can check the fee status by clicking on the *Print Application Button* in the submitted Applications menu in your JKPSC account. In case the payment status shows either "not submitted or under processing or status has not been reflected on your submitted application form", candidates(s) are advised to contact the JKPSC office at Solina Srinagar/Resham Ghar Colony Jammu immediately for clarification. Further where the online fee is paid through other service providers the candidate must ensure that not only the amount of fee is debited from his/service provider's Account but also credited into the official account of JKPSC.

p. The candidate would be able get the printout of his/her submitted application only after the payment of the requisite fee and uploading of requisite documents *viz Date of Birth Certificate, Degree Certificate, Category Certificate and Domicile Certificate.*

q. The JKPSC will not undertake detailed scrutiny of applications for the eligibility and other aspects at the time of written examination and therefore, candidature will be accepted only provisionally. The candidates are advised to go through the requirements of educational qualification, age, etc. and satisfy themselves that they are eligible for the post(s). Copies of supporting documents will be sought at the time of document verification. When scrutiny is under taken, if any claim if made in the application is not found/substantiated by proof, the candidature will be cancelled and the Commission's decision shall be final and binding.

r. Please note that the above procedure is the only valid procedure for applying. No other mode of application or incomplete steps would be accepted and such applications would be rejected.

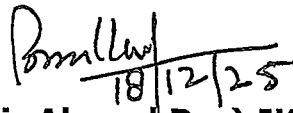## 09. Action against candidates found guilty of misconduct

Candidates are advised that they should not furnish any particulars that are false or suppress any material information.

A candidate who is, or has been, declared by the Commission, to be guilty of:

i. obtaining by wrongful support of his/her candidature by any means, or
ii. impersonating, or
iii. procuring impersonation by any person, or
iv. submitting fabricated documents or documents which have been tampered with or
v. making statements which are incorrect , or false or suppressing material information, or
vi. resorting to any other irregular or improper means in connection with his/her candidature for the selection, or
vii. using unfair means during the test, or
viii. writing irrelevant matter including obscene language or pornographic matter , in the script(s), or
ix. misbehaving in any other manner in the examination hall, or
x. harassing or doing bodily harm to the staff employed by the Commission for the conduct of their test, or
xi. attempting to commit or , as the case may be, abetting the Commission of all or any of the acts specified in the foregoing clauses may, in addition to rendering himself/herself liable to criminal prosecution.

shall be liable;

i. to be disqualified by the Commission from selection for which he/she is a candidate , and/or
ii. to be debarred either permanently or for a specified period:-

   a) By the Commission from any examination or selection held by them.
   b) By the Union Territory Government from any employment under them, and

iii. if he/she is already in service under Government, disciplinary action can be taken against him/her under the appropriate rules.

(Bashir Ahmad Dar) JKAS
Secretary
J&K Public Service
Commission

No: PSC/DR/Asstt. Manager/2025   Dated: 18 .12.2025

Copy to the: -
1. Commissioner/Secretary to the Government, ARI & Training Department, Civil Secretariat, J&K
2. Director, Information Department, J&K. He is requested to publish the Notification in all the leading local dailies of the Union Territory of J&K, for at least three consecutive days.
3. Director Akashvani Srinagar for information.
4. Pvt. Secretary to Chairman for information of the Hon'ble Chairman.
5. P.A to Controller of Examination, J&K Public Service Commission.

6. In charge website, J&K Public Service Commission for uploading of the Notification on the website.
7. In charge Camp Office, Srinagar for pasting the notice on the notice board.
8. Notice Board, J&K Public Service Commission, Srinagar/Jammu.
9. Stock file/Main file.

Unit 1. PRINTING PROCESSES

- Introduction to Printing Technology
- History, Ingredients of Printing (image carriers, printing inks, printing substrates).
- Different Printing Processes and their Modern Uses.
- Suitability and Limitations of each Printing Process for various jobs and purposes.
- Outline of Printing Production Process with basic ideas of current practices in the areas of prepress, press, and post-press operations.
- Introduction to Housekeeping.

- Gravure Printing
- Gravure Image Carriers use in Industry.
- Basic mechanical and operational features of various gravure printing machines: uses, advantages and limitations of gravure printing press. (Packaging Press, Label Press, Publication Press).
- Outline of Gravure Printing Process.

- Screen Printing
- Manual and Photomechanical Image Carriers for Screen Printing.
- Screen Printing Inks – Types, Properties.
- Screen Printing Machines, Hand Printing Tables, Container Screen Printing, Flat Bed Hinged Frame (Automatic), Rotary Screen Printing, Carousal Printing Machine.
- Outline of Screen-Printing Process.

- Digital Printing
- Basic Knowledge of Digital Printing.
- Use of Digital Printing.

Unit 2. PRINTING SCIENCE

- Materials used for Image Carriers:
- Relief Process: Type metal alloys. Original plates: Zinc and copper for blocks; photopolymer plates, duplicate plates: stereo and electro.
- Planography: Zinc, aluminium, anodized aluminium, bimetallic and trimetallic plates, presensitised plates, photopolymer plates, paper-based plates.

- Photographic Materials:
- Basic ingredients of emulsion and their functions.
- Emulsion process, control of sensitometric qualities and sensitometric properties, emulsion structure.
- Developer's constituents and their functions.
- Chemicals for after treatment.
- Introduction to non-silver material.

- Polymers:
- Monomers and Polymers.
- Homopolymers and Copolymers.
- Types of polymerisation reactions: Addition polymerisation and condensation polymerisation.
- Types of Polymers: Plastics, rubber and fibres.
- Composition and characteristic properties of the polymers: Printing ink resin and vehicles, adhesives, film base, cellulose and gelatin.

- Colloids:
- Characteristics.
- Methods of preparation and properties.
- Application in printing industry.

- Substrates:
- Varieties of papers and boards: Characteristics, classification, identification, selection of choice for different classes of print jobs and printing processes.
- Dimensional stability of paper: Effect of humidity on paper.
- Other substrates: Metal foil, plastic, cellophane, etc.

- Printing Inks:
- Constituents of printing ink, general characteristics and requirements of printing inks for various printing processes.
- Basic drying methods and their suitability for printing processes.
- Three and four colour process inks for letterpress and lithography.
- Different inks e.g. heat set, quick set, fugitive, metallic inks etc., their suitability to different applications.

- Digital Printing Science:
- Digital Ink – Powder Type, Solvent Type.
- Substrates used for digital printing.

Unit 3. PRINTING DESIGN

- Illustrative Elements:
- Types of originals for illustration and their reproduction; line and continuous tone copies in colour and black and white.
- Requirements of artwork or originals for reproduction; treatment of photographs, photomechanical transfer materials and their uses.
- Black and white photographs: high contrast and medium contrast.
- Improving quality of photographic prints; masking; scaling; cropping; retouching; use of air-brush.

- Colour Elements:
- Colour theory: terms used to describe colour; warm and cold colours; hue shade; tint.

- Colour wheel: terms used to describe relationship between colours – monochromatic, complementary, analogous, split complementary.
- Selection of colours for two or three or four colour jobs.
- Attributes and emotional appeal for colours.
- Choice and effective use of colours; colour harmony; colour contrast; colour values.

- Layout Preparation:
- Materials, tools, equipment and techniques used in the preparation of layout and artwork.
- Basic geometric shapes, disposition of elements and space; principles of symmetrical and asymmetrical arrangements; distinction between geometric and optical centres.

- Typographic Design:
- Methods of preparing a design and its various stages for different classes of work.
- Typographic specifications for different classes of work.
- Art work preparation for different classes of work in relation to different printing processes, paper and ink etc.

- Planning for Production:
- Selection and coordination of production processes within the economic terms and job specifications.
- The possibilities and limitations of binding, finishing and ancillary processes as they affect design.
- Technical influences and the selection of the specification of ink, paper, cloth, and other materials in relation to job specifications and to different production processes decided.

- Book Design:
- Parts of a book.
- Format and page design to suit different classes of books, book jacket and binding styles.
- Illustrations: their suitability, positions, captions and legends.
- Casting off copy. Principles of copy fitting, copy fitting tables.
- Margins: importance of margins, determining margins to suit various styles of binding.
- Preparation of page layouts for different parts of the book and dummies.

- Display Design:
- Principles of display. Factors affecting display setting.
- The effective use of white space. The shape and the size of the space.
- Type face combinations and their suitabilities.
- Use of borders, rules and other decorative materials. Use of initials.
- Magazine Design:

- Parts of a magazine and their arrangements for cover page, contents pages and sequences.

- Design for Packaging:
- Introduction to packaging, kinds of printed packages, introduction to packages, designing economic importance, advantages, selling aspects.

- Design Organisation:
- Quality control of artwork.
- Necessity of freelance artists, designers and photographers.
- The advertising agency: its functions, procedures and services.

- Digital Designing:
- Software used in digital designing of printed products.

Unit 4. BINDING & PACKAGING

- Warehouse and Binding Operations:
- Printed paper warehouse and unprinted paper warehouse, storing, temperature, humidity, materials handling, safety.
- International paper sizes, Conventional paper sizes, and sub-divisions of paper.
- Book Binding: styles of book binding, basic equipments used in binding.
- Binding Operations: Jogging, folding gathering, collating, stitching, sewing, cutting and trimming operations, machines in use. Treatment of plates and maps, pasting and guarding.

- Securing Operations:
- Use of thread, tape, cord, wire-stitching, looping, gluing, tipping, overcasting.
- Different kinds of sewing, cord sewing and tape sewing, hand sewing and machine sewing, two on through and all along sewing, over casting for looseleaf works, suitability for different styles of binding.
- End papers: single, made end paper, cloth-joint, leather-joint, fly leaf, zigzag end papers, their objectives.

- Forwarding Operations:
- In board and out board forwarding, different kinds of binding and styles, publishers, library, miscellaneous and deluxe extra leather, stationery binding – characteristics.
- Gluing the back, rounding and backing, objects, care and precautions, reducing swell in the back, flat backs, back lining.
- Adhesive binding, thermoplastic, unsewn, threadless and perfect binding.
- Preparation and Attaching Boards:
- Dimensional variation of boards, lining, cutting to size, warping of boards, prevention, attaching boards, lacing-in.

- Covering Operations:

- Different kinds of covering materials, selecting leather of other materials, measuring and cutting to size and shape, applying adhesive and turning-in, pressing, setting the groove or joints, setting the head, setting the band, polishing, pressing and pasting down.

- Finishing:
- Miscellaneous Operations: Cutting, Creasing, Numbering, Perforating, Embossing, Thermography, etc.
- Decorating the cover of the book with the finishing tools, blind blocking, gold blocking, and sliding hand tools, fillets, gallets, rules and mitre, Lettering, type holder, brass type, marking for tooling and lettering, heating, testing and pressing, cleaning, inlaying, lacing and bands open-up and pressing.
- Edge decoration, colouring, spraying, marbling, guilding, gauffering or tooling the edges, head bands, Book mark, Bode mark, hand made and machine made head bands.
- Banding & Laces:
- Single, double, double string, russia, lacing.
- Publishers Binding:
- Folding, bundling, attaching plate and end papers gathering, sewing, nipping, spine gluing, trimming, spring back, edge decoration, rounding and backing, lining. Alternative forwarding techniques, board cutting and cloth cutting, case making, cover decoration, casing-in, pressing, inspection, dispatch.
- Book Repairing Work:
- Pulling a book, removing old groove, by trimming the book, applying the glue on loose leaf, over cast, straintenhing out of vellum leaves, pressing.
- Loose leaf binding and mechanical binding:
- Interscrew, ring metal, prong metal, thong metal, record or universal metal, metal back ledger, metal spiral or coil, wiro, plastic comb.

- Automation in bindery:
- Folfing machine, bundling machine, gathering machine, wire stitching machine, thread stitching and looping machine, three-knife book trimmers, continuous trimmers, book back gluing machine. Rounding and backing machine, back-lining machine, lining up and head binding machine, case-making machine, automatic case making machine, back forming machine, casing in machine, pressing machine, Cold foil stamping machine, Automatic book finishing machine, types and suitability of machines for various classes of work.
- "Embalishment:" UV coating, Aqueous coating, electron beam coating.
- Introduction and uses of packaging.

- Principles of Packaging:
- Concept of packaging, functions of packaging, packaging and productivity, package components, export packaging.

- Types of Packaging:

- Paper based packaging materials, plastics in packaging, glass and metal containers in packaging, flexible packaging.

- Packaging Techniques:
- Packaging of accessories and spares – skin, blister and shrink packaging, stretch wrapping – strip packaging, blister packaging, pharma packaging.

- Packaging Management:
- Package design – an important marketing tool, systems approach to packaging, scientific packaging and loss prevention.

- Production Control:
- Departmental planning and layout, modern production techniques and work-flow sequence, prevention of deterioration: insects, fungi.

Unit 5. TEXT & IMAGE SETTING

- Brief Introduction to Typesetting Systems:
- Digital type setting Systems – Merits & Limitations.

- Typographic Measurement System:
- Units of Measurement, Point system, Units.
- Computerized Measurement by different latest system.

- Typesetting Routines:
- Types of Proof and proof reading.
- Editing, Correction and make-up for books, magazines, newspapers, general etc.

- Digital type setting system:
- Role & functions of computer in type setting.
- Hardware, software its requirement for inputting and outputting.
- Desk Top Publishing (DTP) System advantages & limitations.
- Various latest DTP software and their application.
- Editing correcting and make-up, proofing.
- Online and Offline system, RIP Station.

- Image Setting Systems:
- Classification of image setting systems.
- Suitability & limitations of different image setting systems.
- Basic components of modern image setter and their functions.

- Image Setting Configuration:
- Input devices – work station, high end scanners, Digital Pen, FTP.
- Software for text and image Setting – Type setting and page making, Illustration processing, Colour separation and correction.
- Output Devices – Image Setter, large format inkjet printer, film processor.

- ➤ Storage systems – Latest auto backup devices.

- ➤ Digital Imaging:
- ➤ Basics of image editing, page assembling and imposition.
- ➤ Imposition and workflow software.
- ➤ Raster image processor (RIP).
- ➤ File extension for digital imaging e.g. TIFF, EPS, JPEG, Bitmap.

- ➤ Production Routine:
- ➤ Steps in text processing.
- ➤ Scanning Operations for illustration processing.
- ➤ Output, Quality control.

Unit 6. PROCESS PLANNING AND FILM ASSEMBLY

- ➤ Layout & Planning for Film Assembly:
- ➤ Importance of planning and planning considerations.
- ➤ Layout and planning information the layout factors – related to paper, machine, plate size, Plate Clamp allowance, paper grip allowance, arrangement of individual images of varying sizes, areas of critical register, ink distribution over the sheet.
- ➤ Planning for rapid press makeready: Plate-cylinder guide marks standard distance, fitting the plate to the press, gripper and plate clamp allowance.
- ➤ Preparing the layout: Sheet base and centre reference lines on the layout, placing the aids (register marks, colour guides, star-targets, etc.) within the layout; complicated layouts – strait cut, die-cut and punched finishing and as per work specifications.
- ➤ Planning imposing schemes: The imposition, imposition terms – heads, foot, fore-edges, backs, gutters, tails, folios, registering, imposing rules upright and oblong.
- ➤ Methods of printing book-work: Sheet – Work, work and turn, work and tumble, back margin allowance for sewing, saddle stitching, side stitching, perfect binding, etc., book-work margins.
- ➤ Planning equipment, tools and materials.
- ➤ Image quality control aids and devices.

- ➤ Methods of Planning:
- ➤ Direct ruling to the plate.
- ➤ Considerations and methods of manila/paper template with projected lines, metal keys, Golden rod Key, hinged printing down flats, Burn and red keys on film, adhesive and transfer systems.

- ➤ Image Register Systems:
- ➤ Register pins; punched-hole methods.
- ➤ Page layout scheme including bleeds, trims and folds.
- ➤ Step & repeat.

- ➤ Negative/Positive Film Assembly:

- Inspection of films for assembly.
- Attching negatives to masking materials.
- Positive film assembly Opaquing and checking the flat.
- Attaching tints on line negatives.
- Film Assembly for multi colour printing.

Unit 7. REPRODUCTION TECHNOLOGY

- Originals for Reproduction:
- Requirements of original reproduction.
- Classification of originals, their characteristics and suitability for reproduction.
- Copy preparation for reproduction: Scaling, cropping.

- Equipments and Accessories:
- Process lens: Introduction, structure and requirements, care and handling. Lens aperture, diaphragm – their functions.
- Lateral reversal: Optical and straight line reversal.
- Illuminants used for reproduction photography requirements kinds of modern illuminants – their merits and limitations. Units of illumination, relative intensity and exposurer calculations.
- Process cameras: kinds of modern process cameras and accessories – their merits and limitations.
- Darkroom accessories and their uses.
- Halftone screen – kinds and uses.
- Light intergrater, auto film/paper processor and their control devices.

- Photographic Films and Processing Chemicals:
- Structure of a photographic film, Ingredients used in photographic film manufacture, outline of film manufacture, kinds of photographic films used for reproduction photography – their characteristics and uses.
- Characteristics curve and gama curve of photographic film and effect.
- Latent Image Theory, reciprocity failure, intermittence effect.
- Processing chemicals: developer, kinds, ingredients used in developers and their functions, stop bath, fixer, reducer and intensifiers.

- Line Negative Making:
- Basic line exposure, factor governing expouser.

- Contact Photography:
- Application of contact photography in reproduction.
- Contact Photography: determining the correct exposure, hard and soft dots, Spreads and Chokes.

- Halftone Reproduction:
- Introduction to densitometry: Optical density and its measurement; use of densitometers, Colorimeter and Spectrophoto meter.

- Screens: Cross line and contact screen; grey scale, Selection of screeing.
- Theories of Halftone dot formation; screen distance.
- Halftone negative making; requirements of Halftone negative for diffrent printing processes.
- Halftone exposure systems; flash exposure.
- Camera Procedures and dark room processing for Halftone negative making.

Unit 8. IMAGE CARRIERS TECHNOLOGY

- Introduction:
- Introduction to Image Carrier for different printing processes.
- Details of Image Carrier for Flexo, gravure, offset, silk screen and digital process, its suitability and limitations.

- Photo Engraving:
- Metallic and non metallic image carrier for photoengraving.
- Photo resists: Kinds, characteristics, requirements, dark and continuing reactions.
- Photographic intermediates (Negative/Positives): Kinds, characteristics, and requirements.

- Electroplating For Gravure Cylinder Making Process

- Off Set Plate Making:
- Introduction to Offset plate processes. Materials for offset plates – merits, limitation and suitability.
- Offset Platemaking, materials equipment and accessories.
- Plate Grains, Graining and anodizing.
- Introduction to various plate making process (surface, deepetch, wipe on, PS Plate, Paper Plate, etc).
- Removal and addition work on plate.
- Plate troubles and their remedies.
- Introduction to CTP, Types of CTP and its working.
- Offset Plate Processes:
- P.S. Plate Process.
- Multi-metal plate process.
- Photopolymer plates.
- Paper Plate.

- C.T.P.: computer to Plate systems.
- Types of CTP and Plate.
- Details working process of CTP.

- Screen Preparation:
- Screen fabrics: Kinds, Characteristics and suitability.
- Screen preparation materials, accessories and methods.
- Modern techniques of screen preparation.

Unit 9. PLANNING AND COLOUR SEPERATION TECHNOLOGY

- Light and Colour:
- Electromagnetic waves, visual appreciation.
- Properties of colour, colour perception.
- Additive & subtractive principles of colour synthesis.

- Equipments and Materials:
- Camera essentials.
- Filters, filter factor, filter ratio.
- Halftone screen, special purpose, screens screen angles, AM Screening, FM Screening.

- Colour Separation:
- Principles of colour reproduction.
- Methods of colour separation: direct colour separation and indirect colour separation.
- Exposure control system.
- Evaluation of colour separations.

Unit 10. PRESS TECHNOLOGY

- Digital Printing:
- Introduction to digital printing, Toner based digital printing and Non toner based printing.
- Digital Printing Fundamentals – Pixel image, Digital image.CCD and CMOS. Introduction to various software used in digital printing.
- Selection of technology for digital printing – Variable data printing, print on demand, MICR printing and various types of inkjet printing.
- Brief introduction of 3D technology.
- Printing on different substrate i.e – Glass, Plastics, gold printing, edge decoration, paper, plastic etc.
- 3D web technology, multimedia in multiple production.
- Print on demand.
- Hybrid printing technology.
- Offset Printing Machine:
- Sheet Fed Offset machines: Classification, purpose, Sizes; Speeds; suitability; Single, Two and multi colour and perfecting machines; mechanical and operational features, Different models used in modern industry.
- Plate Cylinder, blanket cylinder, impression cylinder, packing of these Cylinders. Stretch during impression.
- Registration systems: registration devices for book work single colour and multicolour printing; electronic register control.
- Blanket and rollers: Structure and properties of blankets care and maintenance. Kinds of rollers their funtions, merits and limitations.

- Pre-make ready and Make ready operation for printing of single colour, two colour and book jobs on sheet-fed offset machines.
- Make ready operation for multi colour Printing, Colour sequence and its effects, Procedure and uses of Colour mixing and matching.
- Web-fed offset printing machines, Mechanical and operational features, different types and their use in the printing industry.
- Modern devices for Web Control, Multi Colour, Ink Control, Dampening systems, Heat set and Cold set inking system, Drying chamber, Silicou unit and Delivery attachment.
- Automatic reel changing, modern controls of inking and dampening system.
- U.V. ink printing.
- Digital Printing:
- Colour Management – Introduction and image reproduction process.
- Characterising input and output devices, use of CIELAB, CMS.
- Digital printing processes – Silver Faldire, Phernal, Inkjet, Electrostatic Process.
- Market and Applications – Introduction, defining "On Demand Printing", defining variable printing, Typical lenghts, Short-run process colour printing. On demand printing and publishing concepts.

Unit 11. BOOK DESIGN AND PRINTING PRODUCTION

- Selection of Book Format:
- Standard and non standard formats: International ISO range, US/European Standard, metric book publishing format.
- Making the right choice for book formate.

- Preparation of Text:
- Copy preparation, Presentation, copy editing, house style, defining the structure.
- Designing the Text, Selection of type face, type area, page margins and text type size, heading styles, subsidiary text and illustration captions, Prelims and end matter.
- Preparation of Illustration:
- Line art work, tone illustration and the process of picture research, assessing originals for reproduction, line illustrations and tone illustrations.
- Digital Image Editing.

- Preparation of Cover and Jackets:
- The cover/jacket brief; reviewing rough, drawing up and assessing finished art work – specifying the art work size presentation.
- Bar codes – 1 D and 2 D, QR Barcodes.

- Text Setting:
- The type setting cycle: Steps in text processing, front end operations and page make-up techniques, output.
- Marking proofs and controlling quality.

- ➤ Originating and Processing the Illustrations:
- ➤ Scanning of mono-colour and multi-colour illustrations.
- ➤ Proofing and proof checking; Single colour integrated books, colour books.

- ➤ Proofing the Cover/Jacket:
- ➤ The originating stages.
- ➤ Quality control.

- ➤ Paper and Ink:
- ➤ Selection of paper for different types of books, paper measurement and calculation defects in paper.
- ➤ Printing Inks: Specifying inks and process colour inks, calculation of ink consumption/milage.

- ➤ Book Printing:
- ➤ Suitability of selection of printing processes.
- ➤ Selection of printing process: Letterpress, offset, Digital prepress and other processes.
- ➤ Planning and plate making, selection of cover boards and jacket.
- ➤ Total quality control management.

- ➤ Binding and Finishing Process:
- ➤ Different types of book binding.
- ➤ Varnishing lamination, Foil stamping embossing, Trimming, UV coating spot lamination and spot UV.

Unit 12. PRINTING COSTING AND ESTIMATING

- ➤ Costing:
- ➤ Introduction – the object of costing the factors likely to affect profitability, informations sought in costing, national expenses, the outline of British Federation system of costing.
- ➤ A study of the budget – classification of expenditure bases of allocation, apportionment and re-apportionment to cost centres, calculation of cost recovery rates, recovery of all budgeted costs, assessment of capital values, forecasting the life of assets – methods of depreciation, cost sheet and estimate form.

- ➤ Estimating:
- ➤ The importance of accurate estimating The tools of an estimator – Output tabel.
- ➤ Calculations of the printing substrate and flexible packaging materials.
- ➤ Estimating for various method os image carrier preparation (conventional and latest printing processes).
- ➤ Estimating of ink, Toner, Binding and Finishing materials.
- ➤ Estimating for the warehouse.
- ➤ Online estimating: Benifits, Types and processes,
- ➤ Data base printing management system.

Unit 13. COMPUTER APPLICATION

- Computer: Components, input/output devices, and operating systems.
- Office applications: word processing, spreadsheets, presentations, and database management (MS Access).
- Graphics and DTP software: CorelDraw, Photoshop, PageMaker, InDesign, QuarkXPress.
- Internet and networking: email communication, file transfer protocols, cloud storage, and web-to-print.
- Cyber security: data protection, antivirus, firewalls, secure file transfer, and safe online practices.
- Role of computers in printing: applications in typesetting, design, plate making, production, and finishing.

Unit 14. MANAGEMENT AND PUBLIC ADMINISTRATION.

- Management & Administration: Definition and scope.
- Modern approaches in Public Administration.
- General Management Functions: Planning, organizing, coordinating, motivating, directing, and controlling.
- Principles of Organization and Management: Hierarchy, unity of command, division of work, span of control, coordination.
- Departmental Management: Roles and responsibilities, delegation of authority, leadership in decision-making.
- Production & Work Management: Production planning and control, methods study, work measurement, productivity improvement, job evaluation, and incentive schemes.
- Good Governance: Concepts, principles, transparency, accountability, responsiveness in public service.
- Administrative Structure of Government of Jammu & Kashmir and mechanisms of inter-departmental coordination.
- Personnel Management: Recruitment, training, induction, employee welfare, discipline, grievance handling, absenteeism, turnover, and trade unionism.
- Legal Aspects: Factories Act, Industrial Laws, Copyright Act, Registration Act.
- Ethics and Integrity: Probity in governance, values in public service.