



BANGLADESH TECHNICAL EDUCATION BOARD
Agargoan, Dhaka-1207.

4-YEAR DIPLOMA-IN-ENGINEERING PROGRAM
SYLLABUS (PROBIDHAN-2016)

GRAPHICS TECHNOLOGY

TECHNOLOGY CODE: 696

2nd SEMESTER

AIMS

- To be able to develop Knowledge, skill and attitude of offset machine operation.
- To be able to conduct adjustment of different unit of a sheet feed offset press for operation.
- To be able to prepare inking, dampening, printing and delivery unit according to job standard.

SHORT DESCRIPTION

Printing press, feeding and sheet control, inking and dampening unit, printing and delivery, plate and blanket, make-ready, maintaining uniform color, handling raw materials used in pressroom, pressroom safety.

1. Understand offset Printing Press.

- 1.1. Define Offset Printing
- 1.2. Describe the history of Lithographic printing.
- 1.3. Describe Sheet feed single color offset press.
- 1.4. Describe multi-color offset Printing press.
- 1.5. Describe Computer Print Controlled Printing press.
- 1.6. Define the difference between sheet feed and web fed offset press.
- 1.7. Describe the importance of offset printing.

2. Understand feeding and sheet control of offset Printing Press.

- 2.1. Describe the function of different parts of feeding and sheet control unit.
- 2.2. Explain the advantage of various type feeders.
- 2.3. Describe the process of pile height control.
- 2.4. Describe the function of side guide and front guide.
- 2.5. Describe the problem and Remedy of sheet control during printing.
- 2.6. Describe the feedersetting for a new job.

3. Understand inking and Dampening System.

- 3.1. Describe various types of dampening system used in offset printing.
- 3.2. Describe the type and function of dampening cover.
- 3.3. Mention the name and function of inking and dampening roller.
- 3.4. Describe ink drying process.
- 3.5. Describe ink control process.
- 3.6. Describe the preparation process of dampening solution.
- 3.7. Discuss form roller to plate setting.

4. Understand Printing and delivery System Unit.

- 4.1. Describe the function of printing and delivery unit.
- 4.2. Describe the printing cylinder design for sheet fed offset press.
- 4.3. Explain plate mounting process.
- 4.4. Explain why need to control the of cylinder pressure.
- 4.5. Define registration.
- 4.6. Describe the settings process of delivery parts for a new job.

5. Understand Plate and Blanket.

- 5.1. Define offset plate and blanket.
- 5.2. Describe the process of plate Banding and Punching.
- 5.3. Describe offset blanket mounting.
- 5.4. Describe blanket Selection Procedure.
- 5.5. Discuss the care of blanket and offset plate.

6. Understand Pre make ready and make ready.

- 6.1. Describe plate testing and reporting.
- 6.2. Explain test printing.
- 6.3. Describe wash up process before printing.
- 6.4. Describe single color registration on the stock.
- 6.5. Describe multi-color registration on the stock.
- 6.6. Describe the cause of using packaging sheet.

7. Understand maintaining uniform color.

- 7.1. Explain the role of sheet examine during printing.
- 7.2. Discuss about CMYK color.
- 7.3. Describe the pigment and light color.
- 7.4. Describe the ink and dampening solution control process.
- 7.5. Describe solid color printing.

8. Handling Raw materials used in offset printing.

- 8.1. Describe the raw materials used in offset printing.
- 8.2. Describe the method of testing offset ink.
- 8.3. Describe the jinking process of papers and board.
- 8.4. Describe the method of testing paper and board.

9. Understand press room safety.

- 9.1. Describe the cause of accident and remedy during press operation
- 9.2. Describe the cause of accident during handling of raw materials.
- 9.3. Describe the safety procedure.
- 9.4. Explain the function of various firefighting equipment's.
- 9.5. Describe role of management to prevent accident.

Practical

1. Identify different types of raw materials and equipment used in offset printing.
2. Open and set the dampening and inking roller.
3. Set the feeding, inking, dampening and delivery unit for a new job.
4. Mount a plate and blanket for new job.
5. Demonstrate make ready for a new single color job.
6. Demonstrate make ready for a Bi-color job.
7. Run the machine and control ink and dampening solution.
8. Test the grain direction of paper and board.
9. Print a single color job.
10. Print a Bi-color visiting card by single color offset machine.

References:

1. Lithographic Printing- 1 & 2 by Molla Md Golam Mostafa.
2. Lithographic Manual by GATF