COURSE TITLE : FLEXOGRAPHY AND GRAVURE PRINTING
COURSE CODE : 4103
COURSE CATEGORY : B
PERIODS/ WEEK : 6
PERIODS/ SEMESTER : 84
CREDIT : 5

TIME SCHEDULE

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<th>MODULE</th>
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<td>Introduction to Flexography and Gravure</td>
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<td>Image carrier preparation of gravure and Flexo.</td>
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<td>Flexographic printing.</td>
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COURSE OUTCOME:

G.O ON THE COMPLETION OF THE STUDY OF THIS MODULE STUDENTS WILL BE ABLE:

1. To comprehend the Gravure and flexographic printing process
2. To understand the Gravure and flexography image carrier preparation
3. To understand flexographic machine and its features
4. To understand gravure printing machine and its features

MODULE I  INTRODUCTION TO FLEXOGRAPHY AND GRAVURE

1.1.0 To comprehend the Gravure and flexographic printing process
   1.1.1. To define Gravure and flexographic printing process
   1.1.2. To list the basic components of flexographic printing machine
   1.1.3. To identify the components of feeding unit
   1.1.4. To identify the components of printing unit
   1.1.5. To identify the components of Delivery unit
   1.1.6. To explain flexographic printing process in detail

MODULE II  IMAGE CARRIER PREPARATION OF GRAVURE AND FLEXO.

2.1.0 To understand the flexography image carrier preparation
   2.1.1. To define the flexography plate structure
   2.1.2. To identify the plate structure of flexography
   2.1.3. To describe the different flexographic printing image carrier preparation methods.
   2.1.4. To define different Gravure cylinder manufacturing methods.
   2.1.5. To describe the different Gravure cylinder preparation methods.
MODULE III  FLEXOGRAPHIC PRINTING.

3.1.0  To understand flexographic machine and its features
3.1.1  To identify different flexo inking systems
3.1.2  To list different types of anilox rolls
3.1.3  To define the flexographic plate mounting
3.1.4  To give examples to the flexo substrates

MODULE IV  GRAVURE PRINTING.

4.1.0  To understand gravure printing machine and its features
4.1.1  To identify the gravure cylinder parts.
4.1.2  To select different doctor blades.
4.1.3  To define different Gravure presses.
4.1.4  To select different substrates for gravure printing.

CONTENT DETAILS

MODULE I


MODULE II


MODULE III

Flexo Inking Systems: Ink Metering, Anilox Roller. Types of Flexo Inking systems – Two-roll ink metering systems, Modified Two-roll with doctor blade ink metering system, Reverse angle doctor blade ink metering system and Chambered blade ink metering system.
Anilox Roll specifications – Cell count, Cell depth, Cell volume. Types of Anilox roll based on cell shapes – Inverted Pyramid shape cells, Quadrangular shapes cell and Trihelical shape cells.

Structure of Flexographic plate – Metal backed plates, Magnetic plates. Flexographic Plate Mounting Fundamentals. Types of Flexo Plate cylinders – Integral Plate cylinders and Demountable / Metal sleeve cylinders.


MODULE IV

Structure of Gravure Cylinder: Gravure cylinder parts – Axis, Shaft, Diameter, Circumference and Face length. Balancing- Static and Dynamic, distinguish static and dynamic balancing. Gravure cylinder well configuration and its advantages and disadvantages.


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<tr>
<th>Reference</th>
<th>Author</th>
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<tr>
<td>GAA</td>
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<td>Gravure Process and technology</td>
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<td>Foundation of flexographic technical association</td>
<td></td>
<td>Flexographic principles and practices, 4th edition &amp; 5th edition</td>
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<td>Michael Bernard, John Peacock</td>
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<td>Heigh. M. Speir</td>
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<td>Introduction in Printing Technology</td>
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