

CHAPTER 20 - OBJECTIVES

LEARNING OBJECTIVES

After completing the reading and assigned activities related to this chapter, students will be able to do the following:

1. Demonstrate an understanding of the terminology related to an offset lithographic press.
(by correctly completing the bellwork, anticipation guide, and vocabulary)
 - a. Discuss the imaging process of an offset lithographic press
 - b. Review components of an offset press (6 systems, plate, blanket)
 - c. Compare feeding systems of sheet fed press (roll, sheetfed)
 - d. Evaluated printed samples produced on a webfed offset and sheetfed offset
 - e. Described perfecting and compare the features of a perfecting press versus non-perfecting press
 - f. Determine the proper mixing of dampening solution using appropriate ratios
 - g. Describe the use of pH strips and conductivity meters to monitor dampening solutions to maintain print quality.

2. Demonstrate the ability to read a job ticket for an offset press.
(by correctly completing the job ticket question sheet)
 - a. Describe a job ticket/docket
 - b. Determine job specifications from a job ticket/docket
 - c. Analyze job ticket for printing instructions (colors, imposition quantity, type of paper)
 - d. Summarize the finishing production information on a job ticket/docket
 - e. Summarize packaging information on a job ticket/docket

CHAPTER 20 - OBJECTIVES

CODE TO RELATE TO OTHER STANDARDS

***PrintEd - Introduction Graphic Communications**

IGC D. 67) Discuss the imaging process of an offset lithographic press

IGC D. 68) Review components of an offset press

- a. Describe a Printing Unit
 - i. Inking System
 - ii. Water System
 - iii. Plate Cylinder
 - iv. Blanket Cylinder
 - v. Impression Cylinder
- b. Describe an offset printing plate
- c. Describe an offset blanket

IGC D. 69) Compare feeding system of a sheet fed press (roll, sheetfed)

***PrintEd - Digital File Preparation and Output**

DFPO F. 85) Describe a job ticket/docket

DFPO F. 86) Describe job specifications from a job ticket/docket

***PrintEd - Offset Press Operations / Bindery & Finishing**

OPO A. 2) Describe a job jacket/ticket

OPO A. 3) Create a job jacket/ticket using an instructor specified print job

OPO A. 5) Describe the paper path of a sheetfed offset press

OPO A. 10) Evaluate printed samples produced on a webfed offset and sheetfed offset press

OPO A. 11) Describe perfecting and compare the features of a perfecting press versus non-perfecting press

OPO A. 12) Identify components of a printing unit by sketching an illustration

- a. Inking System
- b. Dampening System
- c. Plate Cylinder
- d. Blanket Cylinder
- e. Impression Cylinder

OPO A. 18) Describe the operation of an offset printing press from feeding, through the printing unit,

OPO A. 20) Rate the advantages and disadvantages of offset printing versus digital printing

D. Dampening Solution

OPO D. 43) Describe the components of dampening solution

OPO D. 44) Describe the purpose and operation of a dampening system

OPO D. 45) Demonstrate the proper mixing of dampening solution using appropriate ratios

OPO D. 46) Describe and demonstrate the use of pH strips and conductivity meters to monitor dampening solution to maintain print F.

E. Make-ready

OPO E. 47) Analyze a job ticket for printing instructions

- a. Number of colors
- b. Imposition
- c. Quantity
- d. Type of paper

OPO E. 52) Describe the purpose of a gripper

OPO E. 53) Describe the purpose of a side guide

OPO E. 54) Describe types of blankets

- a. Compressible
- b. Conventional

OPO E. 55) Describe packing sheets (Blanket and Plate)

F. Print

OPO F. 64) Explain the operational procedures, controls, and adjustments for each system (feeding, printing, delivery) on the offset press

BINDERY & FINISHING

A. Bindery and Finishing Technologies

BF A. 95) Summarize the finishing production information on a job jacket/ticket

G. Packing

BF G. 134) Summarize packaging information on job jacket/ticket

CHAPTER 20 - OBJECTIVES

CODE TO RELATE TO OTHER STANDARDS

***PrintEd - Screen Printing**

SP B. 28) Describe a job ticket/docket

SP B. 29) Determine job specifications from a job ticket/docket

CHAPTER 20 - LEARNING ACTIVITIES

PREREQUISITES:

None

LEARNING ACTIVITIES SHEET

Student Name _____

Place a checkmark in the appropriate box as you complete each of the steps below.



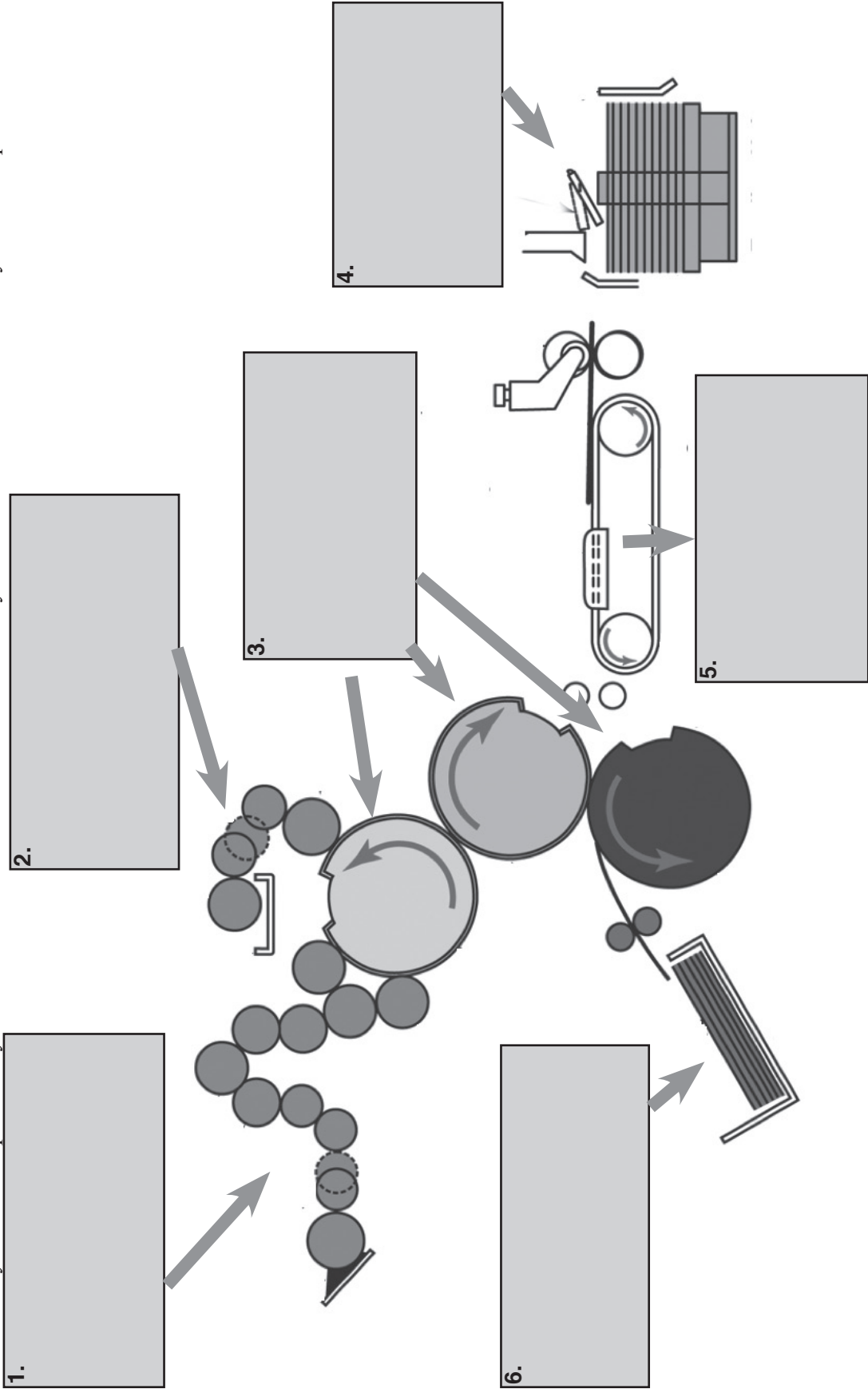
- 1. Do** Read Ch. 20: Offset Press Fundamentals (p.495-540)
- 3. Do** Chapter 20 anticipation guide.
- 4. Do** Assignment Sheet 1, Chapter 20 vocabulary.
- 5. Stop** Have instructor evaluate the completed assignment sheet and if the evaluation is satisfactory, continue to step 6. If the evaluation is not satisfactory, repeat step 4.
- 6. Do** Assignment Sheet 2, Reading a Job Ticket/Docket.
- 7. Stop** Have instructor evaluate the completed assignment sheet and if the evaluation is satisfactory, continue to step 8. If the evaluation is not satisfactory, repeat step 6.
- 8. Do** Chapter 20 - Take Pretest Review.
- 9. Stop** Have instructor evaluate your performance. If the evaluation is satisfactory, continue to step 10. If it is unsatisfactory, fill out the study guide.
- 10. Take** Chapter 20 Quiz.

Name: _____

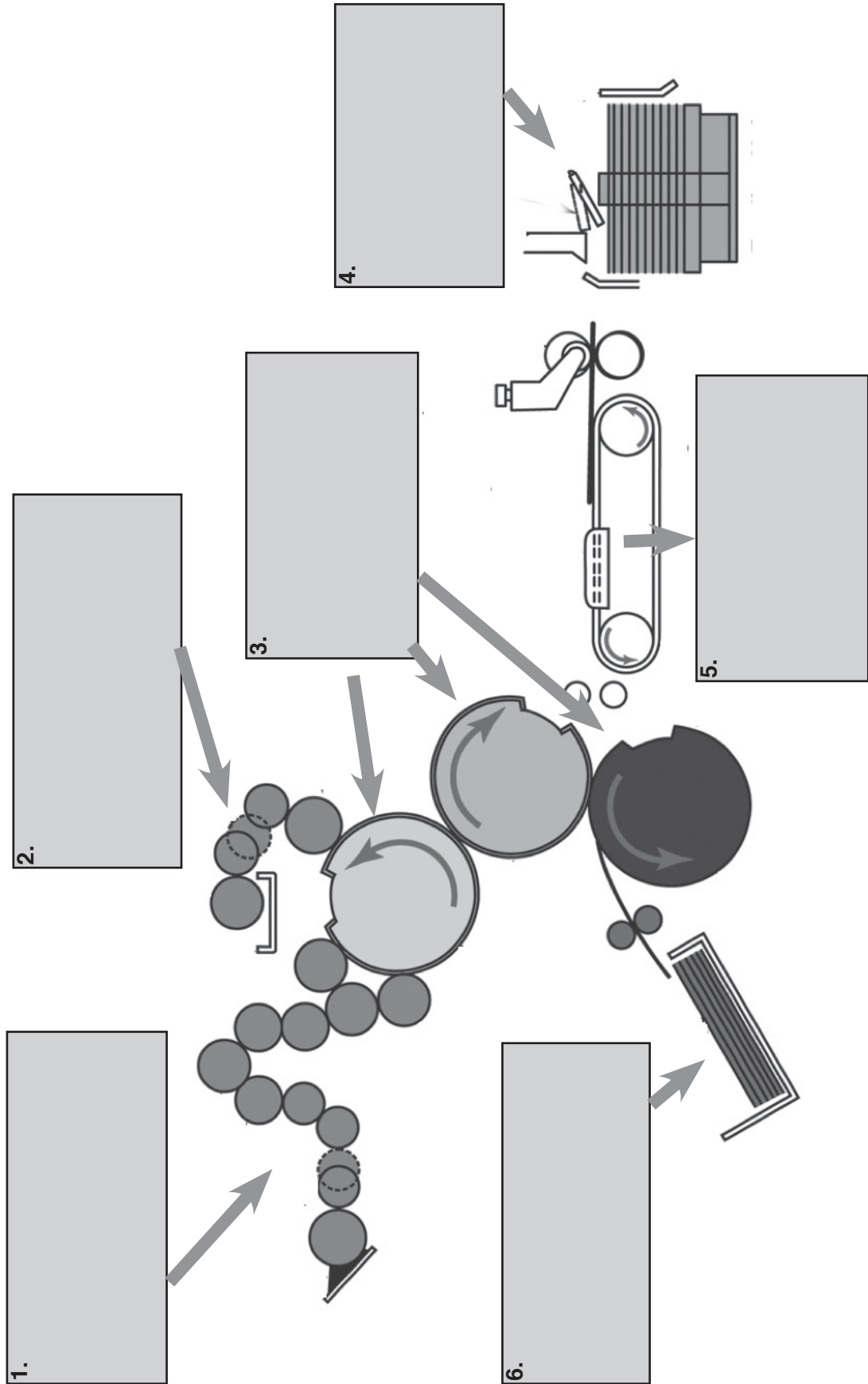
Anticipation Guide: Offset Press Fundamentals

INSTRUCTIONS:

BEFORE READING - This is a side view of the offset press. Try to label the 6 parts of the offset press system. Think of what each part does when you run the press. If you can't think of the name of the different systems then write down what they do on the press.



INSTRUCTIONS:
AFTER THE READING -This is a side view of the offset press. Try to label the 6 parts of the offset press system and write down what they do.



CH. 20 OFFSET-PRESS FUNDAMENTALS

Assignment Sheet 1 - Offset Press Fundamentals

Student Name _____ Date _____

BASIC SKILLS



TECHNOLOGY



READING



CRITICAL THINKING

OBJECTIVE

Evaluation Criteria

Rating

- Correctly identified and defined the components of an offset press _____
- Correctly compared the sheetfed and webfed offset presses _____
- Evaluated printed sample products _____
- Correctly described the purpose and operation of the dampening solution _____
- Correctly described the components of dampening solution _____
- Describe the use of pH strips and conductivity to monitor dampening solution to maintain print quality _____
- Correctly described the proper mixing of dampening solution _____
- Describe the path paper takes through the press _____
- Explain the purpose of grippers _____
- Explain the purpose of side guides _____
- Described the types of blankets and packing sheets. _____

DIRECTIONS

After reading Ch. 20, answer the following questions:

1. What is a sheetfed offset press? _____

2. What is a webfed offset press? _____

3. What is a perfecting offset press? _____

4. Look at the teachers examples, can you see a difference between sheetfed, webfed, and perfecting? _____

CH. 20 OFFSET-PRESS FUNDAMENTALS

5. What is the purpose of the dampening (fountain) solution? _____

6. How does the Dampening Unit work? _____

7. What is in the Dampening (fountain) solution? _____

8. According to the book, figure out the correct ratio of concentrated acid to water: _____

9. If our fountain solution needs 12 ounces of solution per gallon of water, how many ounces of water do I need? _____

Therefore my ration is: 12: _____ ounces

Now reduce it to its lowest terms: _____: _____

10. Describe the use of pH strips and conductivity meters to monitor dampening solutions to maintain print quality?

11. Describe the path paper takes through the press: _____

12. What is the purpose of grippers? _____

13. What is the purpose of side guides? _____

14. Describe the types of blankets (compressible and conventional) and the packing sheets? _____

Name: _____ Period: _____

Chapter 20: Offset Press Fundamentals

Instructions:**Step 1: Rate:** rate your prior knowledge of the word (1=don't know at all, 2-3 = sort of know it, 4= I know it).**Step 2: Describe:** provide a description, explanation, or example of the new term.**Step 3: Restate:** restate the description, explanation, or example in your own term.**Step 4: Graphic Representation:** represent term using simple pictures or symbols.

ANTISETOFF SPRAY	Step 1: 1 2 3 4
Step 4:	Step 2: _____ _____ _____ Step 3: _____ _____ _____
DOUBLE SHEET DETECTOR	Step 1: 1 2 3 4
Step 4:	Step 2: _____ _____ _____ Step 3: _____ _____ _____
FEEDBOARD	Step 1: 1 2 3 4
Step 4:	Step 2: _____ _____ _____ Step 3: _____ _____ _____

Name: _____ Period: _____

Chapter 20: Offset Press Fundamentals

Instructions:**Step 1: Rate:** rate your prior knowledge of the word (1=don't know at all, 2-3 = sort of know it, 4= I know it).**Step 2: Describe:** provide a description, explanation, or example of the new term.**Step 3: Restate:** restate the description, explanation, or example in your own term.**Step 4: Graphic Representation:** represent term using simple pictures or symbols.

FOUNTAIN KEYS	Step 1: 1 2 3 4
Step 4:	Step 2: _____ _____ _____ Step 3: _____ _____ _____
GRIPPER	Step 1: 1 2 3 4
Step 4:	Step 2: _____ _____ _____ Step 3: _____ _____ _____
JOGGING	Step 1: 1 2 3 4
Step 4:	Step 2: _____ _____ _____ Step 3: _____ _____ _____

Name: _____ Period: _____

Chapter 20: Offset Press Fundamentals

Instructions:**Step 1: Rate:** rate your prior knowledge of the word (1=don't know at all, 2-3 = sort of know it, 4= I know it).**Step 2: Describe:** provide a description, explanation, or example of the new term.**Step 3: Restate:** restate the description, explanation, or example in your own term.**Step 4: Graphic Representation:** represent term using simple pictures or symbols.

NIGHT LATCH	Step 1: 1 2 3 4
Step 4:	Step 2: _____ _____ _____ Step 3: _____ _____ _____
SHEET SEPARATOR	Step 1: 1 2 3 4
Step 4:	Step 2: _____ _____ _____ Step 3: _____ _____ _____
SKELETON WHEEL	Step 1: 1 2 3 4
Step 4:	Step 2: _____ _____ _____ Step 3: _____ _____ _____

Name: _____ Period: _____

Chapter 20: Offset Press Fundamentals

Instructions:**Step 1: Rate:** rate your prior knowledge of the word (1=don't know at all, 2-3 = sort of know it, 4= I know it).**Step 2: Describe:** provide a description, explanation, or example of the new term.**Step 3: Restate:** restate the description, explanation, or example in your own term.**Step 4: Graphic Representation:** represent term using simple pictures or symbols.

STRIPPER FINGER	Step 1: 1 2 3 4
Step 4:	Step 2: _____ _____ _____
	Step 3: _____ _____ _____
UNDERBLANKET	Step 1: 1 2 3 4
Step 4:	Step 2: _____ _____ _____
	Step 3: _____ _____ _____

CH. 20 OFFSET-PRESS FUNDAMENTALS

Assignment Sheet 2 - Reading a Job Ticket/Docket

Student Name _____ Date _____

**BASIC
SKILLS**



TECHNOLOGY



READING

OBJECTIVE

Evaluation Criteria

Rating

- Correctly identified name of job from the job ticket/docket _____
- Correctly identified customer from the job ticket/docket _____
- Correctly identified deadline from the job ticket/docket _____
- Correctly identified ink colors from the job ticket/docket _____
- Correctly identified imposition from the job ticket/docket _____
- Correctly identified type of paper from the job ticket/docket _____
- Correctly identified quantity from the job ticket/docket _____
- Correctly identified finishing operations from the job ticket/docket _____
- Correctly identified packaging information from the job ticket/docket _____

DIRECTIONS

Use the attached job ticket and answer the following questions:

1. What is the name and description of the job? _____
2. Who is the customer? _____
3. When is the deadline for the job? _____
4. What are the ink colors for the job? are they process or spot? _____

5. What is the imposition for the job? _____
6. What type of paper is needed for the job? _____
7. How many does the client want? _____
8. What finishing operations are required? _____
9. How is the job to be packaged? _____

Graphic Communications (IGCA13, DFPA1)

Job Name BC 24

Contact	Received by: Mrs. Roberts Date Received: 2/23
Name: John Doe	Email: jdoe@yahoo.com
Address: 123 Broadway	
Phone: (404) 235-6789	

Due Date	3/9
-----------------	------------

Job Description
Business Cards

Production Details
<input checked="" type="checkbox"/> Printing Press (specify) <input type="checkbox"/> Digital Printing (specify)
Type of Job: Business Card Quantity: 1000 PrintED: (specify)
<input type="checkbox"/> Output Only: Filename: Location: <input type="checkbox"/> Pickup Job <input checked="" type="checkbox"/> Design Required
Stock <input checked="" type="checkbox"/> In Stock <input type="checkbox"/> Special Order
Kind: Cover Size: 8.5 x 11 Weight: 80 Color: White
Ink/Toner
Press Ink Color: <input type="checkbox"/> 1-Color <input checked="" type="checkbox"/> 2-Color Black PMS 185 <input type="checkbox"/> 4-Color Process
Digital Color: <input type="checkbox"/> B&W <input type="checkbox"/> Full-Color
Finishing Fold: (none) Binding: (none) Collate: (none) <input type="checkbox"/> 3-hole punch <input type="checkbox"/> Laminate
Packaging <input checked="" type="checkbox"/> Shrinkwrap in packs of 100 <input checked="" type="checkbox"/> Box
<input type="checkbox"/> Wide Format Printing (specify)
Type of Job: (Other) Quantity: <input type="checkbox"/> Output Only <input type="checkbox"/> Pickup <input type="checkbox"/> Design Required
Stock Kind: (Other) Size:
Finishing <input type="checkbox"/> Laminate: (none) <input type="checkbox"/> Grommets
<input type="checkbox"/> Vinyl Cutting
Type of Job: (Other) Quantity: <input type="checkbox"/> Output Only <input type="checkbox"/> Pickup <input type="checkbox"/> Design Required
Vinyl <input type="checkbox"/> In Stock <input type="checkbox"/> Special Order
Color: (Other) Size: (Other)
<input type="checkbox"/> Screen Printing
Type of Job: (Other) Quantity: <input type="checkbox"/> Output Only <input type="checkbox"/> Pickup <input type="checkbox"/> Design Required
Ink: <input type="checkbox"/> 1 st Color (none) <input type="checkbox"/> 2 nd Color (none)
<input type="checkbox"/> 3 rd Color (none) <input type="checkbox"/> 4 th Color (none)
<input type="checkbox"/> Dye Sublimation/Heat Transfer
Type of Job: (Other) Quantity: <input type="checkbox"/> Output Only <input type="checkbox"/> Pickup <input type="checkbox"/> Design Required

Digital File Prep

Page Layout (specify)

Pickup Job : Mo Yr

Input all/changes Proofreading

New Job:

Design Required **PrintED:** (specify)

Match Customer Original (IGC11, IGC12, DFPB1)

Use client provided electronic files

Use client provided layout placing text and/or scans

Flow text (DFPC9)/place photos, art (DFPC13) Reset all copy and layout

Set-up new job (DFPC7)

Page Size: 7x10 Facing Pages: none Margins (TLBR): .125 Number of Columns: 2

Text Formatting:

Format by hand Follow Markup Create Style Sheets

PDF: (none)

Format by hand Follow Markup Create Style Sheets

Other Information

Scanning (IGCC5)

Line Art (DFPD5,6): logo Scan Mode: Grayscale Scan Resolution: 300

Save As (DFPD11): (Other)

Continuous Tone (DFPD7): Scan Mode: (Other) Scan Resolution: (Other)

Save As (DFPD11): (Other)

Halftone (DFPD7): Scan Mode: (Other) Scan Resolution: (Other)

Save As (DFPD11): (Other) Descreen

Post Processing (DFPD15): Straighten Cleanup Crop to (DFPC14): Adjust Levels

Convert to bitmap Convert to vector Adjust midtones for press

Other Information

Vector Graphics (DFPE) (specify)

Create New: From Scratch Match Customer Original Scan original for template

Disk: Preflight (DFPA13) (see checklist) Scale to Cleanup

Convert Type to Outlines

Other Information

Bitmapped Graphics (DFPD) (specify)

Create New: From Scratch Match Customer Original Scan original for template

Disk: Preflight (DFPA13) (see checklist) Scale to Cleanup

Other Information

Text Preparation (specify)

- Keyboarding (DFPA8) (none) Customer supplied Electronic File Preflight (DFPA13) (see checklist)
 email Make Corrections (DFPAC12) Cleanup Proofreading (DFPA12) Tag Text

Other Information

Digital File Output

Proofs (DFPC20, DFO18)

Imposition (DFO11)

Physical Dimensions Page Size: 7x10 Sheet Size: 8.5 x 11

Imposition Number Up: 10 Quite Imposing Imposition: Step and Repeat

- Crop Marks Registration Marks Color Bars

Plate Imposition: Multiple Up

Other Information

Plates (DFO14)

- DPM 2340:** Press (none)

- HPLaserJet 5100:** Press (none) Plate Type (none)

Other Information

Finishing

Cutting (BF13) (get cutting diagram approved before cutting (IGCH6))

Final Size: 3.5x2 Sheet Size: 8.5 x 11

- Crop marks included

Other Information

Lamination

- Badge Lamination**

- GBC Ultima 65**

Other Information

Punch

- Slot Punch**

- 3-hole Punch** (IGCF15)

Other Information

CHAPTER 20 - PRETEST

1. Log onto a computer and go to the following website:
 - <http://reviewgamezone.com/index.php>
2. On the right side it has a box that has 'Games by ID#' type in 6153.
3. To get started, select a game from the list below and test your knowledge on 'Offset Press Fundamentals'
4. If you did not do well, you might want to complete the study guide on the other side of this paper.

Name _____

CHAPTER 20 - STUDY GUIDE

Directions: Using the book, read Chapter 20 and answer the questions below.

Know your vocabulary terms.

Know how to read a job ticket.

What are the three cylinders used on an offset press? know the definition for each.

What is the difference between a sheetfed, webfed, and perfecting presses?

What are the six main operating systems of an offset press? know the definition for each.

Feeding Unit _____

Register Board _____

Printing Unit _____

Dampening Unit _____

Inking Unit _____

Delivery Unit _____

Why is maintaining the correct pH balance in fountain solution important?

What is the ratio for water to fountain solution, if it is 12 ounces solution per 1 gallon water.
(hint: convert gallons to ounces, then reduce to the lowest terms) _____