

UNIVERSITY OF PUNE

[4364]-631

B. E. (Printing)

Technology of Gravure

(2008 Pattern)

Total No. of Questions : 12

[Total No. Of Printed Pages: 2]

[Time : 3 Hours]

[Max. Marks : 100]

Instructions :

- (1) Answer any 3 question from each section.*
- (2) Draw neat diagram wherever necessary.*

SECTION-I

Q1.

- a) Explain in detail the electro-mechanical engraving process [10]
- b) Describe the cell structures of engraving process [8]

OR

Q1. a) Explain in detail making of laser etching of a Gravure cylinder [18]

Q2. Write notes on [16]

- a) Efficiency of Electrolyte.
- b) Chemistry of Electrolyte
- c) Contaminants in Plating
- d) Throwing and Covering Power

OR

Q2. Explain the role of Copper, Nickel and chrome in cylinder making [16]

Q3. Explain in detail sections of a Gravure press [16]

OR

Q3. Explain different types of resin system used in gravure inks [16]

SECTION-II

Q4. Explain in detail Closed and Open loop inking system [18]

OR

Q4. Explain in detail doctor blade loading system of gravure press [18]

Q5. Explain in detail making of an impression roller [16]

OR

Q5. Explain the effect of pressure and hardness on gravure print quality. [16]

Q6. Explain in detail web tension control system for a Gravure press [16]

OR

Q6. Write notes on: (Any four) [16]

- a) Web transport rollers
- b) Corona treatment
- c) ESA
- d) Mottling
- e) Halo

[Total No. of Questions: 6]

[Total No. of Printed Pages: 1]

UNIVERSITY OF PUNE

[4364]-635

B. E. (Printing) Examination - 2013

(Elective I) Commercial Graphic Design (2008 Course)

[Time: 3 Hours]

[Max. Marks: 100]

Instructions:

1 Answer any three questions from each section.

SECTION –I

Q.1	A	Discuss key elements of a graphic design	16
OR			
Q.1	A	Discuss workflow of a design layout and considerations	16
Q. 2	A	What are the advantages of RAW image capture? Discuss in detail	18
OR			
Q. 2	A	Discuss compressible & non Compressible file formats	18
Q. 3	A	Explain Imposition. How does it affect if binding method is changed?	16
OR			
Q. 3	A	Describe a work and turn layout for printing of 16 page layout	16

SECTION II

Q. 4	A	Describe die line to be considered in package design	18
OR			
Q. 4	A	Discuss label and die cutting in detail	18
Q. 5	A	Describe web page specifications with reference to file formats	16
OR			
Q. 5	A	Discuss Web animation using Photoshop with details of file formats	16
Q. 6	A	Discuss JDF and PDF workflow systems	16
OR			
Q. 6	A	Discuss costing of a 4 page brochure with coating and finishing considerations	16

[Total No. of Questions: 6]

[Total No. of Printed Pages: 3]

UNIVERSITY OF PUNE

[4364]-643

B. E. (Printing) Examination - 2013

Printing Machine Maintenance (2008 Course)

[Time: 3 Hours]

[Max. Marks: 100]

Instructions:

- 1 All questions are compulsory answer any one of each question a or b
- 2 Questions 1,2,4 and 5 have 16 marks and
- 3 Questions 3 and 6 have 18 marks
- 4 Illustrations/ drawing should be made to illustrate.

SECTION -I

- Q.1A
- i) What are the different types of cams used in printing machines
 - ii) What is replacing the pawl and ratchet system on Ink ducts drives on modern machines
 - iii) Where are worm and worm wheels used in printing machines and why?
 - iv) What are fasteners that are used in printing machines. Give a list with suitable drawing.

OR

- Q.1B
- i) Need for variable speed control systems used in printing and allied machines
 - ii) Explain drive system of a machine starting from electrical motor with suitable drawing
 - iii) What are the types of couplings used in Printing industry?
 - iv) What are the hydraulic systems used in Printing industry?

- Q. 2A
- i) What are the various mechanical groups of a printing machine?
 - ii) Explain use of a 3 dial gauge to check the package of the plate and blanket cylinder.
 - iii) How is the motion on the feeder mechanism on a printing machine changed from vertical to horizontal?
 - iv) What are chain drives commonly replaced with in modern times? Advantage thereof.

OR

- Q. 2B
- i) What are the type of dampening systems used in sheet-fed offset printing machine? Explain any one with diagram
 - ii) What are the different types of feeding systems used in web offset printing industry.?
 - iii) Explain the function of a stream feeder in brief.
 - iv) How is the plate clamped to the plate cylinder on a Web offset machine?

Q. 3A What is the purpose of inspection of a machine?
What does it help to prevent.

OR

Q. 3B What is Proactive Maintenance?

SECTION II

Q. 4A What do you understand under Breakdown Maintenance? Explain in detail Losses caused by such breakdown.

OR

Q. 4B What care is to be taken in Lubrication? Explain the different types of lubricants.

Q. 5A i) When assembling a machine what are the basics points to be observed?
ii) Types of pneumatics systems used?

OR

Q. 5B i) In modern machines the gears and other moving components are in an oil bath/oil sprinkler system. Explain reasons for the same. Advantages thereof.

Q. 6A i) What are the various tools used for maintenance?
List at least 10.
ii) The cutting action of a paper cutting machine is-----?
Explain the reason for the same.

OR

Q. 6B What are the principles of Plant layout?
Explain in detail.
Prepare a layout for a printing press room with the following equipment:

Explain the flow work.

1 1.8 colour offset machine 19 x 26 inches.
Area of the machine is 40 feet by 8.5 feet.

CPC unit requires an area of 5 feet x 9 feet.

Ancillary equipment such as compressor, chilling unit etc occupies an area of 6 feet x 10 feet.

2 1.4 colour offset machine 30 x 42 inches
Area required for the machine is 8 feet x 56 feet
Ancillary equipment requires further 5 feet x 30 feet

3 2 single colour offset machines 20 x 30 inches
Area required by the machines 6 x 10 feet

UNIVERSITY OF PUNE
[4364]-632
B. E. (Printing)
Digital Imaging and Printing
(2008 Pattern)

Total No. of Questions : 12 **[Total No. of Printed Pages :1]**
[Time : 3 Hours] **[Max. Marks : 100]**

Instructions :

(1) Solve any 3 question from each section.

SECTION-I

Q1. Define Pixel Ratio. Also explain concept of resolution in digital images [18]

OR

Q1. What is compression and lossless file format? Explain with examples [18]

Q2. Explain Bit system in Digital Images. Also explain relation with file sizes [16]

OR

Q2. Explain effect of color temperature on color visualization [16]

Q3. Describe Structure of CMOS and working of a digital camera [16]

OR

Q3. Compare CMOS & CCD sensors [16]

SECTION-II

Q4. Describe in detail Structure and working of Liquid Toner Digital Machine [18]

OR

Q4. Compare Digital & offset Printing Process [18]

Q5. Explain any 3 Applications of variable data printing in detail [16]

OR

Q5. Explain the following: 1) Ionography 2) Large Format Inkjet [16]

Q6. Discuss print on Demand Concept in detail with examples [16]

OR

Q6. Discuss Requirements of a Digital Press setup and compare with conventional press. [16]

UNIVERSITY OF PUNE
[4364-633]
B.E.(Printing) Examination 2013
Advertising and Multimedia
(2008 pattern)

Time-Three hours
[Total No. of Question=6]

Maximum Marks-100
[Total no. of printed pages= 2]

Instructions:

- (1) All questions are compulsory.
- (2) Draw diagram wherever necessary.

SECTION-I

Q.1 What are the different types of advertising? Explain product advertising and service advertising in details.

OR

Q.1 Explain following types of advertising in details.
(a) Public Relations advertising
(b) Public Service advertising (18)

Q.2 Explain AIDA model used for effective advertising.

OR

Q.2 Explain cognizance used for effective advertising. (16)

Q.3 What is marketing research? Explain in details the process of marketing research.

OR

Q.3 What is research? Explain in details. (16)

SECTION-II

Q.4 What are the different elements for construction of effective print advertising? Describe each in details.

OR

Q.4 What is role of copywriter and visualiser in the advertising agency? Explain

in details. (18)

Q.5 What is campaigning? Explain the significance of campaigning with respect to launching of the product/services. (16)

OR

Q.5 With respect to Psychology used in advertisement: Explain the following.
(a) Consumer behavior
(b) Attitude, personality and self concept
(c) Information processing, external environment. (16)

Q.6 What is market segmentation? Explain types of segmentation in details. (16)

OR

Q.6 What are the different approaches for market segmentation? Explain in details. (16)

[Total No. of Printed Pages :2]

[4364]-634

B. E. (Printing) Examination - 2013
QUALITY CONTROL TECHNIQUES IN PRINTING
ELECTIVE I (2008 Pattern)

[Time : 3 Hours]

[Max. Marks : 100]

Instructions :

- (1) All questions are compulsory
- (2) Answers to the two sections should be written in separate answer-books.

SECTION-1

Q1 a) List out the Quality specification. [16]

b) Explain the concept Quality Inspection & Quality Challenges in Printing.

OR

a) Explain the concept of Quality control considering any one printing process.

b) Explain Quality cost in detail.

Q2 a) Double sampling plan is as follows: [10]

Select a sample of 2 from a lot of 20. If both the articles inspected are good, accept the lot. If both are defective, reject the lot. If one is good and one is defective, take a second sample of one article. If the article in a second sample is good, accept the lot, if it is defective, reject the lot. If the lot of 20% defective is submitted, what is probability of acceptance of lot?

b) Define the O.C. Curve in detail. [4]

c) What are different types of sampling plans? [4]

OR

2) The amount of Ink in 2 litter can by an automatic canning machine is [18]

Monitored using a control chart. Draw X-bar & S charts for the data collected at 10 different times. Is the process in control? Assume $A_2=0.577$, $d_2=2.326$, $D_3=0$, $D_4=2.115$, $B_3=0$, $B_4=2.089$

1	2	3	4	5	6	7	8	9	10
2.01	2.00	1.99	1.98	1.96	2.10	2.02	2.01	1.96	1.99
2.02	1.98	1.98	1.99	2.01	2.04	2.00	1.98	1.99	2.00
2.00	1.99	2.1	2.00	2.03	2.07	1.99	1.97	2.03	2.04
2.01	2.00	2.2	1.96	2.12	2.0 2	1.97	1.99	2.0 6	2.01
2.01	1.97	2.00	1.95	1.99	1.99	2.04	2.02	2.10	2.02

- Q3 a) Explain in detail types of Production systems in detail. [8]
b) Explain computer Integrated Manufacturing system with respect to printing industry. [8]

OR

- a) Explain Lean manufacturing in detail [8]
b) Explain Flexible manufacturing system in detail. [8]

SECTION-2

- Q4 a) A) Explain the following Substrate Properties testing in detail [9]
1 Opacity 2 Brightness
3 Porosity 4 Smoothness

- b) Explain Inventory management in Printing Industry. [9]

OR

- a) Explain the following Ink Properties testing in detail. [9]
1 Viscosity 2 Color
3 Opacity 4 Adhesion

- b) Explain the need of checking viscosity of ink & factors on which viscosity is depending. [9]

- a) Explain [8]
Image Editing, Trapping, Image Mixing, Preflight Check.

- b) Explain need of mointer profile with respect to obtaining Quality Printing. [8]

OR

- Q5 a) Explain Raster image processing in detail. [8]

- b) Give various types of profiles & need to make the profiles. [8]

- Q6) Explain the process of Gravure press characterization & Standardization. [16]

OR

- Q6) Explain the process of Flexography press characterization & Standardization. [16]

UNIVERSITY OF PUNE
[4364]-640
B. E. (Printing) Examination - 2013
PACKAGE DESIGN AND TECHNOLOGY
(2008 Pattern)

[Total No. of Questions: 06]

[Total No. of Printed Pages :3]

[Time : 3 Hours]

[Max. Marks : 100]

Instructions :

- (1) *Answers to the two sections should be written in separate answer-books.*
- (2) *Neat diagrams must be drawn wherever necessary.*
- (3) *Black figures to the right indicate full marks.*

SECTION I

- Q1 A Differentiate Flexible and Rigid Packaging by considering the base of Green packaging. 09
- B Explain the Marketing function of secondary packaging. 09
- OR**
- A Explain the raw material Glass, Metal and Paper used for rigid packaging in terms of their Application, advantages and Disadvantages 09
- B Explain the preserve and content function of primary packaging. 09
- Q2 Solve any two 16
- A Explain how the fillers used in paper manufacturing affects the opacity paperboard.
- B List down various surface properties of paperboard. Explain any one of them.
- C Explain the effect of beating, refining process of paperboard manufacturing on the end use properties of paperboard.

- Q3 A Explain the glue composition and also explain the importance of Glue during the manufacturing of corrugated board. 08
- B Explain the importance of flute profile in corrugated board. 08

OR

- A Explain the defect warp which is encountered during manufacturing of corrugated board. Also explain their causes and remedies. 08
- B Explain the term flute. Which flute profiles gives best ECT, FCT, printability and why. 08

SECTION II

- Q4 A Draw and explain two dimensional layouts for one slotted type box and one telescope type box. 08
- B Explain the process of making Jigged die stepwise in detail. 10

OR

- A Explain the Vent holes and hand holes used in corrugated box and also explain their effect on Box compression strength (BCT) of box. 08
- B Explain Flatbed and rotary punching machine. 10
- Q5 Answer any two 16
- A Calculate the cost for making 2000 universal corrugated cartons.
1. Size: 12" x 10" x 6"
 2. All papers 150 gsm
 3. Paper cost Rs. 35000/ton
 4. Conversion Rs. 7000/ton

Calculate a) cost of carton b) Weight of carton c) Total paper required.

B A box takes 300kg load in the laboratory. Calculate the final strength of the box if these boxes are stacked for a month by using brick stacking style and under the 50% relative humidity. Consider the transportation parameter while calculating residual strength. (Assume suitable data)

C Consider the following data

1. Box of dimension 500mm x 300mm x 300mm
2. Stack height 15 feet
3. Individual box weight 30 kg
4. Assume fluting is of 127 gsm with RCT of 1.0 and both liners of equal GSM
5. What will be the board combination for a 3 ply box and 5 ply boxes?

Q6

Write short notes on any **four**

16

1. Box Compression Test (BCT)
2. Water Absorption test for Corrugated medium (TAPPI test)
3. Water Penetration Test for Corrugated medium (TAPPI test)
4. Edgewise Compression Test (ECT)
5. Vibration Tester
6. Drop Tester

[Total No. of Questions:6]

[Total No. of Printed Pages: 4]

UNIVERSITY OF PUNE

[4364]-641

B. E. (Printing), Examination - 2013

Print Production Planning & Control(2008 Course)

[Time: 3 Hours]

[Max. Marks: 100]

Instructions:

- 1 All questions are **compulsory**.
- 2 Answers to the **two sections** should be written in **separate answer-books**.
- 3 Draw neat diagrams wherever necessary.
- 4 Numbers to the right indicate **full marks**.
- 5 Assume suitable data, if necessary.
- 6 Use of logarithmic tables, slide rule, Mollier charts, electronic pocket calculator is allowed.

SECTION –I

Q.1 Explain the functions of Production Planning in detail with suitable examples. 16

OR

Explain the functions of Production Control in detail with suitable examples. 16

Q. 2 Construct a network diagram for a project comprising of activities B,C,E,F,G,H,I,J,L,M,N,P and Q such that the following precedence relationship are satisfied. 16

B<E,F C,F<G C<L E,G<H
H,L<I H<J L<M H,M<N
I,J<P N<Q

OR

The activities along with their dependency relationships are given below. Draw the arrow diagram. 16

Activity	Immediate predecessor
A	---
B	---
C	---
E	A
F	A,B
G	B,C
H	C
I	E,F
J	G,H
K	H

Q. 3 There are six jobs, each of which has to go through the machines A & B in the order AB. Processing time in hours are given as, 18

Job	1	2	3	4	5	6
Machine A	3	12	5	2	9	11
Machine B	8	10	9	6	3	1

Determine the sequence of these jobs that will minimize the total elapsed time T. Also find T and idle time for machines A and B.

OR

There are six jobs, each of which is to be processed through three machines A,B and C in the order ABC. Processing times in hours are, 18

Job	1	2	3	4	5	6
Machine A	3	12	5	2	9	11
Machine B	8	6	4	6	3	1
Machine C	13	14	9	12	8	13

Determine the optimum sequence for these jobs and the minimum elapsed time for the three machines and the waiting time for the jobs.

SECTION II

Q. 4 A A job production unit has four jobs A, B, C and D, which can be manufactured on each of the four machines. The processing cost of each job for each machine is given. How should the jobs be assigned so as to minimize the processing cost. 16

	P	Q	R	S
A	14	12	15	15
B	21	18	18	22
C	14	17	12	14
D	6	5	3	6

OR

Solve the following Assignment problem for minimization. The costs are given below. Find all the alternate solutions, if any 16

	X1	X2	X3	X4	X5
A	8	8	8	11	12
B	4	5	6	3	4
C	12	11	10	9	8
D	18	21	18	17	15
E	10	11	10	8	12

Q. 5 Find the initial feasible solution for the following problem. The supply, demand and unit cost figures are given 16

	W1	W2	W3	
P1	3	2	1	20
P2	2	4	1	50
P3	3	5	2	30
P4	4	6	7	25
	40	30	55	

Demand \longrightarrow

Supply \uparrow

OR

Solve the following Transportation problem. 16

	D1	D2	D3	
S1	10	3	9	400
S2	12	10	5	300
S3	8	11	12	300
	200	300	500	

Demand \longrightarrow

Supply \uparrow

Q. 6 Vitamins A and B are found in foods F1 and F2. 18
 Assuming that anything in excess of the daily minimum requirement of vitamins A and B is not harmful, find out the optimum mixture of foods F1 and F2 at the minimum cost which meets the daily requirement of vitamins A and B. Formulate as a L.P.P.

Food	Vitamins (No of units/unit of food)		Cost of food (Rs. Per Unit)
	A	B	
F1	3	4	9
F2	6	3	15
Minimum Requirement	80	100	

OR

Mr. Rao, the owner of the readymade garments shop wishes to publish advertisements in two local daily newspapers, one Marathi and one English. The expected coverage through advertisements is 1000 people and 1500 people per advertisement respectively. Each advertisement in a Marathi newspaper costs Rs 3000 and for English daily it is Rs.5000. Mr. Rao has decided not to place more than 10 advertisements in Marathi newspaper and wants to place at least 6 advertisements in the English daily. The total advertisement budget is Rs. 50,000/- Formulate the problem as a L.P. model.

18

[Total No. of Questions: 12]

[Total No. of Printed Pages: 3]

UNIVERSITY OF PUNE

[4364]-642

B. E. (Printing) Examination - 2013

Electronic Publishing (2008 Course)

[Time: 3 Hours]

[Max. Marks: 100]

Instructions:

- 1 *Answer three questions from section I and three questions from section II.*
- 2 *Answer Q1 or Q2, Q3 or Q4, Q5 or Q6 from section I and Q7 or Q8, Q9 or Q10, Q11 or Q12 from section II.*
- 3 *Answers to the two sections should be written in separate answer-books.*
- 4 *Neat diagrams must be drawn wherever necessary.*
- 5 *Assume suitable data, if necessary.*
- 6 *Use of logarithmic tables, slide rule, Mollier charts, electronics pocket calculator is allowed*
- 7 *Black figures to the right indicate full marks.*

SECTION -I

- Q.1 A Explain , <table> and <p> HTML tags and their 4 properties each with example. [12]
- B Explain difference between World Wide Web (WWW) and Internet [6]

OR

- Q.2 A Write HTML program to generate the page as shown in picture below. [18]

Date:---	Title		Day
Some text should be written in this column.	Please insert picture here		Please insert picture here
Some text should be written here	Some text should be written here.	Some text should be written here.	Some text should be written here

- Q.3 A Explain what plagiarism is. [6]
B Explain why textual content formatting is necessary. [10]
Explain different factors considered for textual content formatting for facebook, blog, wiki.

OR

- Q. 4 A Explain any 4 E-publishing types. [8]
B Explain different features of e-pub, Mobi file format. [8]

- Q. 5 1) Create an SQL database with to store information of 5 [16]
students. First table should contain Roll No. starting with roll no 1, Name, Address of students Second table should contain Roll No. and batch of students
Third table should contain Roll No. and marks for 2 semesters of students
2) Write an SQL query for above database to display Name, Marks of the student whose Roll No. is 1.

OR

- Q. 6 A Explain all types of SQL 'SELECT' statement with [10]
examples.
B Create an XML file to store information about 5 books. [6]
Information should contain Name of the book, Publication, Author and Price

SECTION II

- Q. 7 A Explain concept of typography with example [8]
B Explain why layout and designing is important in [10]
electronic publishing. Explain use of CSS in web page designing with example. Explain classes and Ids of CSS file.

OR

- Q. 8 A Explain concept of indexing. Write HTML program to [18]
design 4 pages such that
1) For page1: Home page. It should have link to remaining 4 pages.
2)For page 2: It should have link to page and Home page.
3) For page3: It should have link to previous page, next page and Home page
4) For pages4: It should have link to previous page and home page

- Q. 9 A Explain difference between e-book reader and mobile [8]

- book reader.
- B Explain different features of Adobe. [8]
- OR**
- Q. 10 A Explain different features of PDF file formats. [8]
B Explain use of E-publishing in the field of printing. [8]
- Q. 11 A Explain what content management system (CMS) is. [10]
Explain use of content management system (CMS) in
the field of printing.
B Explain enterprise content management system(ECMS) [6]
- OR**
- Q. 12 A Explain main features of dot net like common language [10]
runtime (CLR), cross language interoperability.
B Explain web content management system (WCMS). [6]

[Total No. of Questions: 6]

[Total No. of Printed Pages: 1]

UNIVERSITY OF PUNE

[4364]-645

B. E. (Printing) Examination - 2013

FLEXIBLE PACKAGING (Elective IV) (2008 Course)

[Time: 3 Hours]

[Max. Marks: 100]

Instructions:

- 1 *Answers to the two sections should be written in separate answer-books.*
- 2 *Neat diagrams must be drawn wherever necessary.*

SECTION -I

Q.1	A	Define packaging and explain the basic requirements of Packaging.	8
	B	Explain the role of Aluminum and Cellophane in Packaging	8
OR			
Q.1	A	Write properties and applications of a) LPDE b) PVC c) PETG d) PS	16
Q. 2	A	Explain in detail the unit configuration of a Gravure Press	16
OR			
Q. 2	A	Explain in detail the unit configuration of a Flexo Press	16
Q. 3	A	Explain in detail Wet and Dry lamination techniques	18
OR			
Q. 3	A	explain in detail Blown Film Extrusion process	18

SECTION II

Q. 4	A	Explain in detail Aseptic packaging.	16
OR			
Q. 4	A	Explain in detail the process of making lamitubes	16
Q. 5	A	Explain in detail Shrink wrapping technique	16
OR			
Q. 5	A	Describe different types of pouch in flexible packaging	16
Q. 6	A	Explain the packaging methods for beverage products	18
OR			
Q. 6	A	Mention deterioration factors and packaging techniques for the following: a) Alcoholic beverages b) Tea c) Milk	18

[Total No. of Questions: 12]

[Total No. of Printed Pages: 1]

UNIVERSITY OF PUNE
[4364]-646
B.E. (Printing) Examination-2013
Entrepreneurship in Printing & Allied Fields
(2008 Course)

[Time: 3 Hours]

[Max. Marks: 100]

Instructions:

- 1) Solve any 3 question from each section

SECTION-I

Q.1 Define areas for Entrepreneurship in Digital printing industry. [18]

OR

Q.1 Discuss works management on a Press shop floor [18]

Q.2 Explain considerations in running a packaging & Printing firm. [16]

OR

Q.2 Discuss Copyright act and laws related to publications. [16]

Q.3 Describe for costing and estimating a hard bound book publication. [16]

OR

Q.3 Explain paper inventory management in a print house. [16]

SECTION-II

Q.4 Discuss quality assurance procedures in a print shop. [18]

OR

Q.4 Discuss Client database management system in detail. [18]

Q.5 Explain customer service & follow up procedures. [16]

OR

Q.5 Discuss latest trends in printing domestic & global. [16]

Q.6 Discuss any three laws related to Print industry. [16]

OR

Q.6 Discuss impact of Excise and customs on printed goods. [16]