

BACHELOR OF PRINTING ENGINEERING EXAMINATION 2023
(Second Year, Second Semester)
PRINTING SURFACE PREPARATION

Time: Three hours

Full Marks: 100

CO 1

(answer any one question)

1. (a) Describe with sketch the Brush graining method adopted in aluminium plate graining.
(b) What are the merits and demerits of brush graining method?
(c) How can we improve the grain structure of aluminium plate. Describe in brief. 10+5+5=20
2. (a) Describe the Ball graining method adopted in aluminium plate graining.
(b) Describe the parameters affecting the ball graining techniques.
(c) Describe how can we evaluate the plate grains? 7+8+5=20

CO2

(answer any three questions)

- 3.(a) What are the factors which affect the thickness of the bichromated colloid coating on grained Al plate used in lithographic surface preparation? Discuss in brief.
(b) What are the advantages of the deep etch plate over the surface plate?
(c) What are basic constituents of the regular developing solution used in gum deep etch plate preparation?
(d) What are the constituents of the etching solution used in gum deep etch plate preparation? Discuss the function of each of them. 8+7+2+3=20
4. What are the factors which influence the sensitivity to light of the bichromated colloid coating used in lithographic surface preparation? Discuss in brief. 20
5. (a) What are the purposes of counter etching the lithographic plate before coating?
(b) Discuss in brief, the effect of chemical surface treatment on the coating thickness of the bichromated colloid used lithographic plate making.
(c) What is the reason of keeping the pH of the gum arabic solution used as desensitizing agent in the vicinity of 3.0 ?
(d) Why is the gum arabic best suited as desensitizing agent? 4+4+6+6=20
6. (a) Discuss in brief the basic structure of the Positive working waterless offset plate.
(b) Discuss in brief, the imaging and developing of the Positive working waterless offset plate. 5+15=20

CO3

(answer any one question)

7. (a) What are the merits and demerits of waterless offset process?
(b) What are properties the Silicone Resin have, for which it is used as imaging material for the non-image areas of the waterless offset plate? 6+4=10
8. (a) Differentiate between additive and subtractive Pre-sensitized plate.
(b) Discuss in brief, what happens when one step additive developing solution is applied for developing wipe-on plates
(c) Subtractive Negative Working Diazo plates have thicker coating than Additive Negative Working Diazo plates. Discuss the reason, considering composition, effect of light and developing. 3+3+4=10

CO4

(answer any one question)

9.(a) Developing solution used in Positive Working Pre-Sensitized Plates is alkaline in nature. why

(b) What are the preferences of the plate-maker and printer so far as plate grain is concerned? Discuss with reason.

(c) The quality of images produced in waterless offset process is much higher in terms of resolution, sharpness, brightness in comparison with litho offset process. Discuss the reason behind this.

3+4+3=10

10.(a) Why is Ammonium Hydroxide added to the bichromated colloid coating solution which is used as light sensitive coating in the preparation of Offset plate?

(b) What is purpose of Sodium Silicate layer in the Pre-sensitized plate?

(c) What are the merits and demerits of the gum deep etch process over the PVA deep etch process?

(d) What is the constituent of the counter etching solution?

2+2+4+2=10
