Ref. No: **Ex/PRN/PC/B/T/221/2024**

B. E. PRINTING ENGINEERING EXAMINATION 2024
(Second Year, Second Semester)
PRINTING SURFACE PREPARATION

Time: Three hours Full Marks: 100

CO1 (Answer Any One)

1. (a) Why is Aluminium selected as base metal for image surface preparation of Offset Printing?
(b) What are the purposes of graining the base plate used in Lithographic Printing Surface Preparation?
(c) What are the factors which influence the mechanical graining of the lithographic plates? Discuss in brief.

5+5+10=20

2. (a) Describe with neat sketch the Brush Graining method adopted in aluminium plate graining.
(b) What are the merits and demerits of brush graining method? Describe in brief.
(c) How can we improve the grain structure of aluminium plate? Describe in brief. 10+5+5=20

CO2 (Answer Any Two)

3. (a) Discuss in brief the subtractive negative working presensitized plates.
(b) What are the preferences of the plate-maker and printer so far as plate grain is concerned? Discuss with reason.
(c) Why is water sprayed on the counter etched plate just before pouring of bi-chromated colloid coating solution in the whirler?
(d) Why is Ammonium Hydroxide added to the bichromated colloid coating solution which is used as light sensitive coating in the preparation of Offset plate?
(e) What is purpose of Sodium Silicate layer in the Pre-sensitized plate?
(f) What are the merits and demerits of the gum deep etch process over the PVA deep etch process?
(g) What is the constituent of the counter etching solution? 3+4+2+2+2+5+2=20

4. (a) What are the advantages of the deep etch plate over the surface plate?
(b) What are the constituents of the regular developing solution used in gum deep etch Plate preparation?
(c) What are the constituents of the etching solution used in gum deep etch plate preparation? Discuss in brief.
(d) What are the purposes of anodizing?
(e) What happens to the exposed areas of the positive working Pre-Sensitized plate when exposure is given 7+2+3+5+3=20

5. What are the factors which influence the sensitivity to light of the bichromated colloid coating used in lithographic surface preparation? Discuss in brief. 20

CO3 (Answer Any One)

6. . (a) What are the merits and demerits of Waterless Offset Process?
(b) What are the properties Silicone Resin have, for which it is used as imaging material for the non-image areas of the waterless offset plate ?
(c) What do you mean by additive and subtractive presensitized plate? Discuss in brief.
(d) Discuss in brief, how the plate grains are evaluated. 5+4+4+7=20

7. (a) Discuss in brief the basic structure of the Negative working waterless offset plate.
(b) Discuss in brief, the imaging and developing of the Negative working waterless offset plate.

5+15=20

[Turn over

CO4 (Compulsory)

8. (a) What is the composition of the brunaking solution used in Egg Albumen and Deep Etch Processes ?
   Discuss the effect of brunaking in coating thickness and image quality.
   (b) What happens when one step additive developing solution is rubbed on exposed diazo Plate?
   (c) Why alkaline developer is used in Positive working Pre-Sensitized plate ?
   (d) What is stop out in deep etch plate making?
   (e) During the summertime special developing solution is to be used to develop the gum Deep etch plate. Why?
   (f) What are the functions of the transparent protective layer in Waterless Offset Plate?

(3+4)+3+3+3+2+2=20