

Duration: 3 hrs

Total Marks: 80

N.B.

- 1) **Question No.1** Compulsory.
- 2) **Answer any three** from the remaining Five questions.
- 3) Figures to the right indicate **full marks**.
- 4) Give illustrations and examples wherever necessary.

- Q1. A) Describe the importance of ingredients used in inks and coating materials. **10**
- B) Enlist and explain various types of inks based on their method of synthesis, Form, Curing Methods, Application methods and other specialty inks if any. **10**
- Q2. A) Explain pigments based on their sources and processing methods. **10**
- B) Enlist various pigments based on its color effects. **10**
- Q3. A) The principle and working of Two-roll mill with suitable diagram. **10**
- B) Enlist various Dyes available based on their color effect. **10**
- Q4. A) Explain the types and formulations for inks used in letterpress printing process for printing News-paper. **10**
- B) Explain various type of ink formulations used for lithographic printing process. **10**
- Q5. A) Explain the importance of UV Inks today and explain typical formulations for UV inks used for printing Plastic Substrate. **10**
- B) Explain the Oleoresinous varnish manufacturing process with suitable diagram. **10**
- Q6. A) Explain various criteria for the selection of Oils preferred for Inks and Coating synthesis. **10**
- B) Calculate the quantity of black ink required for 17,000 copies of a 25 page booklet of A5 Size each page with a print area of 200 cm². There are 20 pages printed in black ink from halftone pictures and 5 pages in type matter in black. The booklet is printed by photo-offset process on a coated art paper. (Considering SG of Black ink = 1.4) **10**