

B.E. PRINTING ENGINEERING SECOND YEAR SECOND SEMESTER – 2025

GRAPHIC REPRODUCTION

Time : Three hours

Full Marks : 100

Answer from all the groups.

GROUP – A

- 1.a) Describe the basic principle of vertical process camera. 6
b) What are the merits of vertical process camera over contact printer? 4

GROUP – B

Answer any *two* questions.

- 2.a) What do f-numbers printed on the lens body indicate? 3
b) Explain the followings. 4x3=12
i) Achromat
ii) Anastigmat
iii) Apochromat
- 3.a) Compare among functions of different layers of a black and white process film. 6
b) How the dry gelatin halide emulsion is manufactured? Describe briefly. 9
- 4.a) What are the basic requirements of a light source for graphic reproduction camera? 3
b) Describe the different light sources used in graphic reproduction photography. 12

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GROUP – C

- 5.a) Describe the basic principle of a densitometer with supporting diagram. 6
- b) Describe the role of polarisation filters in a densitometer. 5
- c) What do the different parts of a characteristic curve of a film emulsion represent? Discuss in details. 9

GROUP – D

Answer any *two* questions.

- 6.a) Why halftones are at all required in reproduction processes? 5
- b) How does 'penumbra' help the formation of dots of varying sizes in halftone images? Show with supporting diagram. 6
- c) Why black printer negatives are required in colour reproduction in offset printing process and how is it prepared? 2+4
- d) Reason why separate screen angles are used instead of the same angle for colour separation images? 3
- 7.a) "Contact screen is simpler and more versatile compared to glass crossline screen." Explain the statement. 7
- b) Why Moire pattern is caused and how it can be eliminated? 3+3
- c) Discuss the role of colour separation filters in colour separation photography. 7
- 8.a) Explain why in colour reproduction methods colour correction is a necessity. Describe any one colour correction technique. 5+5
- b) Make a comparison between direct and indirect method of colour separation with supporting block diagram. 10