B.E. PRINTING ENGINEERING FIRST YEAR SECOND SEMESTER – 2018

GRAPHIC REPRODUCTION

Time : Three hours

Full Marks : 100

Answer any *FIVE* questions.

1.a) "Simple lenses are not used in graphic reproduction." Explain. 4

b) Discuss various defects in process lenses and show their remedies. 12

c) What is lens flare? How is it eliminated? 2+2

2.a) Compare among functions of different layers of a black and white process film. 8

b) What is allyl thiocarbamide? What function does it generally play in a dry gelatin halide emulsion? 2+2

c) Why chemical ripening is at all required in the manufacturing of dry gelatin halide emulsion? 2

d) Why doctoring is necessary in the manufacturing of dry gelatin halide emulsion? Explain it briefly. 1+5

3.a) What are the basic ingredients of a continuous-tone developing solution? How these ingredients contribute to the effective working of the solution? 4+10

b) Why fixing is necessary in film processing? Explain briefly. 3

c) What sort of special exposure is required in halftone preparation and why? 1+2

4.a) Why density measurement is so important in graphic reproduction? 3

b) Describe the role of colour filters and polarisation filters in a densitometer. 4+5

c) How optical density of a negative image can be enhanced? 5

d) Define colour temperature. 3

5.a) Why halftones are at all required in reproduction processes? 5

b) Describe the penumbral theory of halftone photography. 6

c) Why Moire pattern is caused and how it can be eliminated? 3+3

d) Reason why separate screen angles are used instead of the same angle for colour separation images? 3

6.a) "Contact screen is simpler and more versatile compared to glass crossline screen." Explain the statement. 7

b) Why black printer negatives are required in colour reproduction in offset printing process and how is it prepared? 2+4

c) Discuss the role of colour separation filters in colour separation photography. 7

7.a) Why colour correction is needed in colour reproduction methods? Describe any one colour correction technique. 5+5

b) "Indirect method of colour separation films is qualitatively better than direct method of colour separation films." – Justify it with description of these methods along with flowchart. 10

8. Write short notes on any *four* : 4x5=20

a) Fluorescent lamp

b) Carbon arc lamp

c) Mercury vapour lamp

d) Metal halide lamp

e) Pulsed xenon lamp