B. E. PRINTING ENGINEERING FIRST YEAR SECOND SEMESTER (Old) - 2019

GRAPHIC REPRODUCTION

Time : Three hours | Full Marks : 100

Answer any *FIVE* questions.

1.a) "Simple lenses are not used in graphic reproduction." Explain. 5

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

c) What do f-numbers printed on the lens body indicate? 3

2.a) What are the basic ingredients of a lith developing solution? How these ingredients contribute to the effective working of the solution? 4+7

b) What does a characteristic curve of a film denote? Explain it briefly. 2+7

3.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. 17

4.a) What is optical density? Describe the basic principle of a densitometer with supporting diagram. 2+5

b) How optical density of a negative image can be enhanced? 4

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

d) How does 'penumbra' help the formation of dots of varying sizes in halftone images? Show with supporting diagram. 6

5.a) Why halftones are at all required in reproduction processes? 4

b) Why moire pattern is caused and how it can be eliminated? 3+3

[Turn over

c) Why black printer negatives are required in colour reproduction in offset printing process and how is it prepared? 3+4

d) What is allyl thiocarbamide? 3

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

b)) Compare between contact screen and glass crossline screen. 7

c) Explain why in colour separation photography the original artwork is split into three images with the help of three primary colour filters. 5

d) How filter factors are calculated? 5

7.a) Make a comparison between direct and indirect method of colour separation with supporting block diagram. 10

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

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

a) Lens flare

b) Gelatin

c) Reduction

d) Continuous tone

e) Colour temperature