

Ex/PT11K/39/2006 (Old)

FIRST PRINTING ENGG. EXAMINATION, 2006

(1st Semester, Old Syllabus)

PROCESS PHOTOGRAPHY

Time : Three hours

Full Marks : 100

Answer any *five* questions

1. a) What should be the quality of a process lens ? 5
b) What is lens flare ? How is it eliminated ? 2+3
c) Why do the exposure times vary at different magnifications of the image ? 5
d) You are provided with two lenses of 150 mm and 210 mm. Focal length along with a process camera having a maximum bellows extension of 500 mm. Which lens would you use for 1.5 times enlargement ? 5
2. a) What are the basic ingredients of a Lith developing solution ? How these ingredients contribute to the effective working of the solution ? 3+5
b) What do the different parts of a characteristic curve of a film emulsion represent ? Discuss in details. 7
c) Why Fixing is necessary in film processing ? Explain briefly. 5
3. a) What are the basic requirements of a light source for process camera ? 3

[Turn over

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- b) What is colour temperature ? 2
- c) Describe the different light sources used in process photography? 15
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? 5
- c) What sorts of special exposures are required in halftone preparation and why ? 1+2
- d) Describe the penumbral theory of halftone photography. 5
5. a) Why halftones are at all required in reproduction processes ? 5
- b) Why Moire' pattern is caused and how it can be eliminated? 4+4
- c) How is the Black printer negative prepared ? 7
6. a) What will happen if
- i) Lith emulsion is used for continuous tone work ? 3
- ii) An orthochromatic emulsion is used for colour separation photography ? 3

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- b) "Contact screen is simpler and more versatile compared to Glass Cross-line screen". Explain the statement. 8
- c) What are the screen angles normally used for each colour in 4-colour printing ? 2
- d) Reason why separate screen angles are used instead of the same angle for screen colour separation images ? 4
7. a) "Indirect method of colour separation films are qualitatively better than direct method of colour separation films." – Justify it with description of these methods along with flowchart. 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* : 4×5=20
- a) Filter factor
 - b) Relief printing process
 - c) Screen printing process
 - d) Planographic printing process
 - e) Gravure printing process