

B.PRINT ENGG. FINAL EXAMINATION, 2006
2nd Semester
MAGAZINE & BOOK PRODUCTION TECHNIQUE

Time : Three hours

Full Marks : 100

Use a separate answer-script for each part.

PART-I

All question carry equal marks.

You are required to attempt any five questions.

1. You are required to print Calcutta Yellow Page in your Printing Plant. Inside pages would be printed in black on yellow background. You require 940 MT of paper for printing Calcutta Yellow Page. The Mill can, however, provide paper in yellow shade of your choice if you buy at least 1000MT.

Cost of white paper and yellow shaded paper are Rs.40000.00 and Rs. 42000.00 per MT respectively. Resale value excess paper is Rs.24,000.00 per MT. Variable cost of printing yellow at your press is Rs. 5000.00 per MT. Should you buy yellow shaded paper for cost effectiveness? 10

2. While printing a book having magenta background in tint in a Web offset press you find parallel lines across the web. Please define and assess cause of the problem.

Which areas of the Print Unit should be examined for solving the problem?

Had the parallel lines been at equal distance, which specific areas of Print unit should be examined? 10

3. A book has 400 inside pages printed on 60 GSM high bulk natural shaded 0.05 mm thick papers. Cover is printed on 300GSM 0.23 mm thick board. Allowance for air gap between paper layers, when pressed for perfect binding is 10.0%. Thickness of adhesive used in perfect binding is 0.015 mm. Calculate thickness of spine of the perfect bound book. 10
4. It is known that commercial web presses are generally used for magazine printing in color on coated paper. Please explain relative merits and demerits of printing magazines in Gravure Press. 10
5. One printing plant required 80MT of paper per working day. An inter-firm comparison shows that the plant can save 2% of its consumption if paper handling is mechanized at a cost of Rs.8000000.00. If average cost of paper is Rs. 30000.00 per MT, calculate the period in number of days required to recover the said investment. The plant observes 5 days in calendar year. 10
6. Two heat-set presses meant for magazine printing are located in a town in tropical area. One Press runs in conditioned environment. The other press is exposed to local ambiance.

Cost of maintaining conditioned environment in Press hall is Rs. 1500000.00 PA

Saving in paper, ink & chemicals by virtue of conditioned environment is Re.0.10 per copy.

Investment for attaining conditioned environment is Rs. 4500000.00

Calculate minimum annual printing commitment to recover entire investment in one year. The Press can produce 250000 copies per day and is available for production for 350 days in a year. How much would be your saving per annum if you produce 200000 copies/day? 10

7. While printing magazine in 4-color in a web offset press, you observe that the first color is wider with respect to next colors across the web. which specific term is used to identity this problem? How and where such problem can occur in offset printing? What action would solve quality problem arising out of the said phenomenon? 10
8. You have an offset printing plant for printing quality books and magazines in color. Your business demands acquisition of waterless offset press and its production technology at a high price. What should be your considerations to arrive at appropriate decision? 10
9. Please identify single major source of dust formation at a high-speed web press. Is it necessary to remove such dust from Press hall? if so, please explain why and also explain how such dust could be removed? 10

PART - II

Answer Q. 10 and any two from the rest

10. (a) Name the factors that enter into paper selection for a magazine. 2
- (b) What is the effect of peperweight on the cost of the magazine? 2
- (c) What is the drying method of inks for peperback book printing? 2
- (d) Name any four paper qualities that affect print quality. 2
- (e) What are the post printing properties of ink that affect or influence the paerformance of the printing process? 2
11. (a) What are coated papers? Describe briefly gloss coated papers? 4+6=10
- (b) Which paper types suit the following requirements:
 - i) Readability ii) good picture quality iii) Readability alongwith good picture quality iv) Low issue weight v) Deurability. 10

12. (a) How are inks specified?
- (b) What is pigment concentration of ink? What are the pigment concentration related problems? How can it be evaluated? 10
13. (a) How many types of sheetfed presses are frequently used in magazine production? What are they? Explain them. 1+2+9=12
- (b) What is the fault and what are their probable causes when you see the following symptoms :
- i) Colour photographs blurred
- ii) Unprinted spots on paper 4+4=8
14. Write short notes on (any four) : 5×4=20
- i) Matt coated paper
- ii) Uncoated mechanical SC
- iii) Ink transparency
- iv) gloss of inks
- v) Modern methods of granule cylinder preparation used in magazine production.
- vi) Single width web offset presses.
-