

Other fixed annual expenditures of the organisation to be divided 45:55 between M/C-I and M/C-II

(a) Salaries on indirect labour, Office staff including bonus, P.F. Gratuity etc.	—	Rs.	2,00,000
(b) Amenities to workers and welfare	—	Rs.	50,000
(c) Factory maintenance	—	Rs.	90,000
(d) Electricity and water charges	—	Rs.	1,60,000
(e) Travelling and conveyance	—	Rs.	1,20,000
(f) Miscellaneous Expenses	—	Rs.	1,80,000

20

B. PRINTING ENGG. PART-I EXAMINATION, 2008

(2nd Semester)

ESTIMATING AND COSTING

Time : Three hours

Full Marks : 100

Answer question No. 7 and any *two* from each group.

Group-A

- Distinguish between Estimating and Costing. 5
 - How estimated price of producing a job differs from selling price of the job? Explain each term with an example. 3+6
 - What are the two basic principles for classification of the cost? In each classification there are various segments. Explain each segment. 6
- What is production planning? How is it related with Estimating? 2+4
 - How a job is broken into different parts during estimating? Explain with flow chart. 6
 - What are the International sizes of paper mentioning their specific uses? Are there any special sizes of paper? If any, mention it. 6+2
- Design an Estimate Sheet with their relevant informations. 10
 - What is MIS? How it differs from Conventional system with respect to their advantages? 2+8

[Turn over

(2)

Gorup – B

4. (a) Find the Ream weight of 60 gsm Quad Crown cream wove paper. 2
- (b) Find the Gross weight of 350 gsm Board of 76×102cm.2
- (c) Find the GSM of 31.9 kg/Ream of Double Medium offset printing paper. 2
- (d) A Balance Sheet of Demy Quarto size containing 56 pages to be printed in 2-colours (Magenta and Black) in Web offset process. The number of copies to be printed 2,00,000 copies 80 gsm of Super Calender paper in Demy size web to be used for text. Cover to be printed in 4-colours on same stock on one side in web offset. Tabular form is used throughout the balance sheet and Bold type is used on cover.

Consider the paper wastage for text is 1.75% per colour and 6% for cover and also consider the ink wastage is 1.5% per colour.

Find the quantity of ink and paper to be consumed for printing the balance sheet. 8+6

5. A Magazine consisting of 128 pages of Double Medium Octavo size to be printed in Gravure process of 2,50,000 copies. 32 pages are printed in 4 colours (C, M, Y and K), 72 pages in 2 colour (C and K) and rest in 1 colour (K).

Paper to be used is 70 gsm Foreign Art Paper of Medium size web. Cover to be printed in 4-colours in 170 gsm Foreign Art paper of Medium size web on both side in Gravure. Light type is used throughout the Magazine and bold type is used in cover.

Also consider the following informations :

Paper price : Foreign Art Paper - Rs. 80,000/ton

Ink price : Rs. 210/kg.

Paper wastage : 1.25% per colour

Ink wastage : 1.75% per colour

(5)

	<u>M/C-I</u>	<u>M/C-II</u>
Power rating	12 kw	15kw
Power charge/unit	Rs. 5	Rs. 5
Working hours/shift	8 hours	8 hours
No. of working days per year	300 days	310 days
Capacity Utilisation	75%	80%
Average output per shift	40,000 impressions	50,000 impressions

Cost of exclusive direct consumables :

	<u>M/C-I</u>	<u>M/C-II</u>
(a) Re-copperising cost @ Rs. 2000 each to last for 5 yrs. in Single shift working.	5 Nos.	5 Nos.
(b) Cost of rubber blankets @ Rs. 2500 each to last for 50 lakhs impressions	2 Nos.	2 Nos.

Other benefits to working staff :

Bonus	—	20%
P. F. Contribution	—	8.33%
E.S.I.	—	9%
Gratuity	—	4%

Other Charges :

Bank interest on Machine Value	—	14%
Depreciation (on one shift basis)	—	15%
Insurance	—	1%

[Turn over

(4)

Flim Processing cost :

1 col. line text and sketches @ Rs. 1.0/sq.cm.

2 col. line and halftone @ Rs. 2.5/sq.cm.

4 col. line and halftone @ Rs. 4.5/sq.cm

Imposition cost /forme of 8 pages :

Rs. 125 for 1 colour forme

Rs. 200 for 2 colours forme

Rs. 350 for 4 colours forme

Plate processing cost/forme 8 pages :

Rs. 200/colour/forme for 1 colour

Rs. 225/colour/forme for 2 colours

Rs. 250/colour/forme for 4 colours

Impression Cost : Rs. 125/thousand/colour/forme

Paper wastage : 2% per colour per forme. 20

7. Find the composite Machine Hour Rate (CMHR) of M/C-II (works in two shifts) from the information given below :

	<u>M/C-I</u>		<u>M/C-II</u>	
Machine value	Rs.	25,00,000	Rs.	40,00,000
<u>Manpower (in one shift)</u>	<u>No.</u>	<u>Rs.</u>	<u>No.</u>	<u>Rs.</u>
Printer	1	6000 P.M.	1	6000 P.M.
Asst. Printer	—	—	2	5000 P.M.
Feeder Man	1	4000 P.M.	1	4000 P.M.
Ink Man	1	4000 P.M.	1	4000 P.M.

Salary of Supervisor @ Rs. 10,000/shift/P.M. to be divided 40:60 between M/C-I and M/C-II.

(3)

Imposition cost/forme of 4 pages :

Rs. 150 for 1 colour forme

Rs. 250 for 2 colours forme

Rs. 400 for 4 colours forme

Cylinder processing cost of 4 pages :

Rs. 1500/colour/forme for 1 colour

Rs. 1750/colour/forme for 2 colours

Rs. 2000/colour/forme for 4 colours

Impression cost : Rs. 175/thousand/colour/forme.

Finishing and Binding charges : Rs. 1.25 per copy.

Find out the per copy cost of Magazine. 20

6. Estimate the cost of the book to be printed in offset process taking into consideration the specification and data given below :

No. of copies : 20,000

Size of the book after finishing : 22×27 cms.

No. of pages : 224

Composing area : 18×22 cms.

168 pages—printed in 1 col. line text and sketches.

32 pages—printed in 2 col. line and halftone

24 pages—printed in 4 col. line and halftone

Text Paper used : 95 gsm of Super Calender Paper and Double Medium size.

Cover paper used : 220 gsm—Indian Art Board and Double Medium size.

Paper price : Super Calender Paper—Rs. 65,000/ton

Indian Art Board—Rs. 70,000/ton

Composing charges : Rs. 0.30/sq.cm.

[Turn over