

23/5/13

Roll No:

B.E.FULL-TIME DEGREE END SEMESTER EXAMINATIONS, MAY 2013

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INDUSTRIAL ENGINEERING

FOURTH SEMESTER- (REGULATION-2008)

IE9251 ENGINEERING ECONOMY, COSTING AND ACCOUNTING

Time: 3 hr

Max. Mark: 100

Answer ALL Questions

Part-A (10 X 2 = 20 Mark)

1. Give three examples for Economic Activity and Non-economic activity
2. State the reasons for over and under estimation
3. Show the table for the ratio of MRTS between two factors
4. State the reasons for Average cost (AC) not equal to Average Revenue (AR) at its Minimum Point?
5. How will you determine the time taken for shaping machine?
6. What is Sprue Loss?
7. What is Transport costing? Give some examples for service costing?
8. Differentiate Job costing Vs Process costing
9. Define debentures
10. What are the advantages of Capital Budgeting?

Part-B (5 X 16 = 80 Marks)

11. The following information relates to Process II for the period ending December 2005. There was a normal loss of 5% of production and units scrapped were sold at Rs 3 each. Prepare a statement of equivalent production, distribution of cost and process account. (16)

Particulars	Units	Cost (Rs)
Opening Stock	1000	14400
Transfer from Process I	42600	3,30,800
Direct materials used in Process II		1,60,720
Direct Labor		79,240
Factory Overhead		39,620
Units Scrapped	2,200	-
Transfer to Process III	37,800	-
Closing stock	3,600	-

Degree of completion			
Particulars	Opening Stock %	Closing stock %	Scrap %
Material	70	80	100
Labor	50	60	80
Overhead	50	60	80

12 (a) Discuss short-run and long-run cost curves with an example? (16)

OR

12 (b) Define Production function Explain the returns to scale, economies of scale and statistical production function with suitable illustrations? (16)

13 (a) (i) Explain the different methods of allocation of overhead expenses? (8)

(ii) In a production concern the variable overhead charges are Rs 2/article & the fixed charges/month are Rs 35,000. It is estimated that 65,000 articles are produced each month under normal conditions. Find the following:

(a) The normal overhead cost per article. (3)

(b) If the factory cost drops to 85% production. The overhead charges that is uncovered.

Take the overhead rate per article the same as that during normal conditions. (5)

OR

13. (b) Find out in the suitable cost sheet form the selling rate / tonne of special paper manufactured by a paper mill for a private firm in January 1990 under the following divisions of cost: (a) Prime cost (b) Works cost (c) Total cost (d) Selling Price.

The cost sheet is to be prepared with reference to the data given below:

(i) Direct Materials

Paper Pulp- 1000 tonnes @ Rs 50/tonne

Other Miscellaneous Materials, 200 tonnes @ Rs 30/tonne

(ii) Direct Labour

100 Skilled men @ Rs 5/day for 20 days

50 unskilled men @ Rs 3/day for 20 days

(iii) Direct Expenses

Special Equipments Rs 5,000

Special Dies Rs 2,000

(iv) Works Overhead

Variable 100% on direct wages

Fixed 60% on direct wages

Administrative Overhead @ 10% of works cost

Selling & distributive Overhead @ 15% of works cost

Profit 10% on total cost  
 Finished paper manufactured 800 tonnes  
 Sale of waste paper Rs 1,000.

There was no WIP in the beginning or at the end of the month. The scrap value of special equipment is nil after use. Work was done only for 20 days in the month. Selling price to be worked to the nearest rupee. (4+4+4+4=16)

14 (a) From the following data relating to two different vehicles X & Y, Compute the cost/running mile?

Particulars	X (Rs)	Y(Rs)
Mileage Run (Annual)	15,000 miles	6,000 miles
Cost of vehicles	25,000	15,000
Road License (Annual)	750	750
Insurance (Annual)	700	400
Garage Rent (Annual)	600	600
Supervision & Salaries (annual)	1200	1200
Direct wages/hour	3	3
Cost of petrol/gallon	3	3
Miles Run/gallon	20 miles	15 miles
Repairs & Maintenance charges/mile	1.65	2.00
Tyre allocation/mile	0.80	0.60
Estimated life of the vehicle	1,00,000 miles	75,000 miles

You are required to charge interest on cost of vehicles at 5 percent/annum.

The vehicles run 20 miles/hour on an average? (16)

OR

14 (b) Calculate the following overhead variance:

- (i) Overhead cost variance (2)
- (ii) Overhead Budget variance (2)
- (iii) Overhead Volume variance (3)
- (iv) Overhead Efficiency variance (3)
- (v) Overhead Capacity variance (3)
- (vi) Overhead Calendar variance (3)

Items	Budget	Actual
No of working days	20	22
Man hours per day	8,000	8,400
Output per man hour in units	1.0	0.9
Overhead cost (Rs)	1,60,000	1,68,000

15 (a) . The following trial balance of ARJUN as on 31<sup>st</sup> march 2009 is given. Prepare Trading Account and Profit and Loss Account for the year ending 31<sup>st</sup> march 2009 and a balance sheet as on that date consider the adjustments given here: (16)

- (a) Outstanding wages Rs 1050
- (b) General Expenses including insurance Premium Rs 300 paid for the year ending 30<sup>th</sup> june 2009.
- (c) Provide for doubtful debts @ 5 percent per annum
- (d) Depreciate the following assets: Land and building @ 5 percent per annum, machinery @ 10 percent per annum and furniture@ 15 percent per annum
- (e) Closing stock Rs 7500
- (f) Provide for interest @ 10 per cent/annum on loan from Mrs Arjun

Debit Balances	Amount (Rs)	Credit Balances	Amount (Rs)
Stock as on 1.4.2008	7750	Capital	30,000
Land and Buildings	17500	Loan from Mrs Ram	15000
Machinery	25000	Creditors	4800
Furniture	2500	Purchase Returns	1050
Purchases	53000	Interest Received	600
Salaries	5500	Sales	103650
General Expenses	1250		
Rent	1500		
Postage & Telegrams	700		
Stationery	650		
Wages	13000		
Frieght	1400		
Carriage outwards	2000		
Repairs	2250		
Debtors	15000		
Bad debts	300		
Cash in hand	100		
Cash at bank	3200		
Sales Returns	2500		
<b>Total</b>	<b>1,55,100</b>	<b>Total</b>	<b>1,55,100</b>

OR

15 (b) Describe the evaluation procedure of Payback Period, ARR, IRR and NPV method?(16)