

- 3 Define Break-even analysis and explain its main features and useful contributions to the management in decision making.

#### UNIT V

Attempt any 2 questions. Each question carries 10 marks :

- 1 (a) In process A 100 units of raw materials were introduced at a cost of Rs. 1,000. The other expenditure incurred by the process was Rs. 602. Of the units introduced 10% are normally lost in the course of manufacture and they possess a scrap value of Rs. 3 each. The output of the process A was only 75 units. Prepare Process A account and abnormal loss account.  
(b) Write a note on inter-process profits.

- 2 Differentiate between Cost Reduction and Cost control. What are the major areas in which Cost Reduction is usually possible?

- 3 The standard cost of a chemical mixture is as under:

8 tons of material A at Rs. 40 per ton.  
12 tons of material B at Rs. 60 per ton.  
Standard yield is 90% of input.

*Actual cost for a period is as under :*  
10 tons of material A at Rs. 30 per ton.  
20 tons of material B at Rs. 68 per ton.

Actual yield is 26.5 tons.

Compute all materials variances.



PAPER ID : 1228

THU-301

Paper ID and Roll No. to be filled in your Answer Book

Roll No.

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B. Tech.

(SEM. III) (ODD SEM.) (REG./BACK) EXAMINATION, 2012-13

**ENGINEERING ECONOMICS & COSTING**

[Total Marks : 100

Time : 2 Hours]

#### UNIT I

Attempt any 4 questions. Each question carries 5 marks :

- 1 Mr. Vinay plans to send his son for higher studies abroad after 10 years. He expects the cost of these studies would be Rs. 1,00,000. How much should he save annually to have a sum of Rs. 1,00,000 at the end of 10 years, if the interest rate is 12 percent.
- 2 At the time of his retirement, Mr. X is given a choice between two alternatives: (a) an annual pension of Rs. 10000 as long as he lives, and (b) a lump sum amount of Rs. 50000. If Mr. X expects to live for 15 years and the interest rate is 15 percent, which option appears more attractive?
- 3 What amount must be deposited today in order to earn an annual income of Rs. 5000 beginning from the end of 15 years from now? The deposit earns 10 percent per year.

- 4 What do you understand by time value of money ?
- 5 Raghu borrows Rs. 80000 for a musical system at a monthly interest rate of 1 percent. The loan is to be repaid in 12 equal monthly installments, payable at the end of each month. Prepare the loan amortization schedule.
- 6 You want to borrow Rs. 1500000 to buy a flat. You approach a housing company which charges 13 percent interest. You can pay Rs. 200000 per year towards the loan amortization. What should be maturity period of the loan?

### UNIT II

Attempt any 2 questions. Each question carries 10 marks :

- 1 There are two projects A and B. A has a service life of one year, while B's useful life is five years. The initial cash outlays for both projects may be assumed to be Rs. 20,000 each. The cash proceeds from project A (at the end of first year) amount to be Rs. 24,000. The cash generated by project B at the end of the fifth year is likely to be Rs. 40,200. Assume that the required rate of return is 10 percent. Compute the NPV and IRR of both the projects.
- 2 A project costs Rs. 16,000 and is expected to generate cash inflows of Rs. 8,000, Rs. 7,000 and Rs. 6,000 at the end of each year for next 3 years. Compute IRR.
- 3 What are the limitations of IRR method as compared to NPV method ?

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- Attempt any 2 questions. Each question carries 10 marks :
- 1 What do you mean by cost-benefit analysis ? Explain the steps in cost benefit analysis.
  - 2 What is cost-effectiveness analysis ? Discuss its applications in various fields.
  - 3 Explain in detail different techniques you will follow for analysis of public projects.

### UNIT III

Attempt any 2 questions. Each question carries 10 marks :

- 1 Describe any two methods of providing depreciation. Also give the merits and demerits of each method described.
- 2 Assuming that the cost structure and selling prices remain the same in periods I and II, find out :
  - (a) Profit Volume Ratio ;
  - (b) Fixed Cost;
  - (c) Break even point for Sales;
  - (d) Profit when Sales are of Rs. 1,00,000;
  - (e) Sales required to earn a profit of Rs. 20,000.

Period	Sales (Rs.)	Cost (Rs.)	Profit (Rs.)
I	1,20,000	1,11,000	9,000
II	1,40,000	1,27,000	13,000

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