

Fourth Semester Examination, April – 2005

ENGINEERING ECONOMICS  
& COSTING

Full Marks : 70

Time : 3 Hours

Answer Question No. 1 which is compulsory and any  
five from the rest.

The figures in the right-hand margin indicate marks  
for the questions.



1. Answer the following in *one* or *two* sentences  
each : 2×10

- (a) What do you mean by deferred annuity ?
- (b) What is capitalized cost ?
- (c) What do you mean by pay back period ?
- (d) What is economic life ?
- (e) What is minimum acceptable rate of return ?

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- (f) What is social discount rate ?
- (g) What do you mean by depletion ?
- (h) What is dumping ?
- (i) Define contribution.
- (j) What do you mean by relevant cost ?
2. (a) An investor has an option to purchase a tract of land that will be worth Rs.10,000 in six years. If the value of the land increases at 8% each year, how much should the investor be willing to pay now for this property ? 5
- (b) If a certain machine undergoes a major overhaul now, its output can be increased by 20% which translates into additional cash flow of Rs.20,000 at the end of each year for five years. If the interest rate is 15% per year, how much can we afford to invest to overhaul this machine ? 5
3. State the needs for annual worth comparison. Discuss the situations for equivalent annual worth comparison. 10

4. A capital investment of Rs.10,000 can be made in a project that will produce a uniform annual revenue of Rs.5,310 for five years and then have a salvage (i.e., market) value of Rs.2,000. Annual expenses will be Rs.3,000. The company is willing to accept any project that will earn at least 10% per year, before income taxes, on all invested capital. Determine whether it is acceptable by using the IRR method. 10
5. What are the causes for declining value of assets ? Discuss two basic methods of computing depreciation charges with examples. 10
6. Konark Ltd. has an annual capacity of 50,000 units. It currently sells 40,000 units at a price of Rs.105. It has the following cost structure : 10
- |   |     |         |
|---|-----|---------|
| Variable manufacturing cost per unit              | Rs. | 45      |
| Fixed manufacturing costs                         | Rs. | 800,000 |
| Variable marketing and distribution cost per unit | Rs. | 10      |
| Fixed marketing and distribution costs            | Rs. | 600,000 |
- Find out its break-even point and margin of safety.

7. State the needs for classification of cost. How will you calculate the cost of a process ? Explain a technique of cost control. 10
8. From the following particulars, calculate material variances : 10

Quantity of material purchases : 3000 units

Value of materials purchased : Rs. 12,000

Standard Quantity of materials  
required per ton of out put : 30 units

Standard Rate of materials : Rs. 3.50

Opening Stock of materials : Nil

Closing Stock of materials : 500 units

Out put during the period : 80 tons



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