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B. Tech

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**B. Tech
HSSM 4201**

Fourth Semester Examination – 2007

ENGINEERING ECONOMICS AND 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.*



1. Answer the following questions : 2×10

- (a) Define 'engineering economics'.
- (b) What do you mean by 'annuity due' ?
- (c) What is 'annual equivalent' ?
- (d) Define 'compound interest'.
- (e) What is 'future worth' ?
- (f) What do you mean by 'yield' ?

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Fourth Semester Examination

ENGINEERING ECONOMICS

Full Marks

Time – 3 H

Answer Question No. 1 and any five from the rest.

The figures in the right margin indicate marks.

1. Answer the following questions.

- (a) Define 'engineering economics'.
- (b) What do you mean by 'cost accounting'?
- (c) What is 'annual equivalent cost'?
- (d) Define 'compound interest'.
- (e) What is 'future worth'?
- (f) What do you mean by 'payback period'?

- (g) What is 'amortisation'?
- (h) Define 'sensitivity analysis'.
- (i) What is 'period of return'?
- (j) What is 'cutoff rate'?

2. The current lease rate for a machine is Rs. 18 per month. The machine is available for lease from Leasing Company Ltd. on the following terms:

- (i) Rs. 18 / Rs. 1,00,000 per month for 5 years.
- (ii) Rs. 12.5 / Rs. 1,00,000 per month for 5 years and five years to 10 years.

While the monthly lease payments are payable at the end of each month, the purchase price of the machine is payable at the end of the 5-years contract. Assuming 10% market interest rate, calculate the net present value of the lease and purchase payments.

3. Explain the importance of the comparison of the two methods. How can the comparison be made with unequal life? Explain.

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1. Answer the following questions.

- (a) Define 'engineering economics'.
- (b) What do you mean by 'cost accounting'?
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- (d) Define 'compound interest'.
- (e) What is 'future worth'?
- (f) What do you mean by 'payback period'?

4.

The particulars of two projects are as follows:

Particulars

Initial Outlay

Cash inflow after taxes :

Year-end	1	2
	2	4
	3	4
	4	

Service Life (in years)

Required rate of return : 0.10

Which of the above projects is better? select? Explain.

5.

- (a) Differentiate between straight-line and written down value depreciation.
- (b) Discuss multiple-payback period with one example.

6.

The following figures represent the sales and costs of a company :

Sales

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ENGINEERING ECONOMICS

Full Marks

Time – 3 H

Answer Question No. 1 and any five from the rest.

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1. Answer the following questions **8**

- Define 'engineering economics'.
- What do you mean by 'cost accounting'?
- What is 'annual equivalent cost'?
- Define 'compound interest'.
- What is 'future worth'?
- What do you mean by 'break-even point'?

Find out :

- P/V ratio
- Fixed Cost
- Break-even point
- Margin of safety in 20%

From the following data calculate the above variances :

	STANDARD	
	Quantity (Units)	Rs.
A	3500	10
B	1500	21
C	1000	33

Write notes on :

- Cost reduction
- Process cost system.