

ENGINEERING ECONOMICS

B. TECH  
SEMESTER: 3<sup>rd</sup>

Full Marks: 70  
Time: 3 hours

Answer SIX questions including Q No. 1 which is compulsory.  
The figures in the right hand margin indicate marks. *Symbols carry usual meaning.*

Q1. Answer all questions.

[2×10]

- a) Give the meaning of demand.
- b) What is the usefulness of the concept of IRR?
- c) What is NPV?
- d) Write a short note on return to scale.
- e) What do you mean by marginal cost?
- f) What is meant by public goods?
- g) What are the two important techniques of cost control?
- h) What do you mean by game theory?
- i) Give the meaning sensitivity analysis.
- j) What is hypothesis testing?

Q2. Discuss the relevance and criteria of cost. Benefit analysis for a public project.

[10]

Q3. a) What is the difference between IRR and NPV?

[5]

b) What are costs as understood in cost benefit analysis?

[5]

Q4. Solve the following problem by graphic methods:

[10]

Minimize:  $3X_1 + 2X_2 \geq 10$

$$2X_1 + 4X_2 \geq 10$$

$$X_2 \geq 4$$

and  $X_1, X_2 \geq 0$

Q5. a) Explain the law of variable proportion.

[5]

b) Write a note on constant return to scale.

[5]

Q6. a) Give a critical evaluation of revealed preference theory.

[5]

b) Write a brief note on the short run Cob-Douglas cost function.

[5]

Q7. a) For what type of business problems might game theory be helpful?

[5]

b) Write a note Monis Model of managerial enterprise.

[5]

8. Distinguish between:

[5x2]

a) Long run and short run cost curves.

b) Private cost and social cost.