

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(CHE) (2011 Onwards) (Sem.-7,8)
PROCESS ENGINEERING & ECONOMICS
Subject Code : BTCH-802
Paper ID : [A2977]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students have to attempt **ANY FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students have to attempt **ANY TWO** questions.

SECTION-A

Q.1 Answer briefly :

- i. What is discounting?
- ii. What do you understand by compounding?
- iii. For one year compounded annually, which is more simple interest or compound interest and why?
- iv. What will be the loss at breakeven point? Justify your answer.
- v. Name the documents required for filing patent.
- vi. What do you understand by salvage value?
- vii. When cash flow is positive?
- viii. What is the difference between gross and net profit?
- ix. Explain rate of return.
- x. What is the difference between copyright and patent?

SECTION-B

- Q2. Explain with example sum of the year method for calculating depreciation.
- Q3. Explain time value of money.
- Q4. Drive expression for continuous interest.
- Q5. A company purchased an equipment whose first cost is Rs. 2,50,000 with an estimated life of eight years. The estimated salvage value of the equipment at the end of its life time is Rs. 50,000. Determine the depreciation charge and book value at the end of various years by using straight line method of depreciation.
- Q6. The purchased cost of a 20,000 liters glass lined reactor was Rs. 4,00,000 in the year 2010. Estimate the price of similar reactor having capacity 30,000 liters now. Assume the value of capacity exponent as 0.55 and inflation at the rate of 8% compounded annually.

SECTION-C

- Q7. Describe current patent laws and legislations in India for IPR.
- Q8. Explain with example simplex method of optimization.
- Q9. Describe legal decision making process and ownership of tangible and intellectual property.