SEAT No. :

P2992

[5669]-584

T.E. (Computer Engineering)
INFORMATION SYSTEM & ENGINEERING ECONOMICS
(2015 Pattern) (Semester - I)

Time : 2½ Hours]   *[Max. Marks : 70*

Instructions to the candidates:

  1)   *Answer Q1) or Q2), Q3) or Q4), Q5) or Q6), Q7) or Q8), Q9) or Q10).*

  2)   *Neat diagrams must be drawn wherever necessary.*

  3)   *Figures to the right side indicate full marks.*

  4)   *Assume Suitable data if necessary.*

  5)   *Use of scientific Calculator is Permitted.*

Q1) a)   Define the following terms :   **[6]**

     i)   Information goods

     ii)   Experience goods

     iii) Lock-in

  b)   How are information system (IS) different from information Technology (IT)?   **[4]**

OR

Q2) a)   Why is vendor management important? What are the key issues to consider for managing vendors carefully?   **[6]**

  b)   Define the following terms   **[4]**

     i)   De-skilling

     ii)   Alienation

Q3) a)   What is meant by e-governance? What are the main stages of e-governance evolution?   **[6]**

  b)   What is the meaning of outsourcing and how is it different from off-shoring?   **[4]**

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Q4) a) What is a business process? Explain it in brief. **[6]**

b) What is middleware? Why is it important ? **[4]**

Q5) a) What are the different types of engineering economics decisions? Explain them in brief. **[8]**

b) What is meant by discounting process? Shayam have just purchased 100 shares of General Electric stock at Rs 30 per share. He will sell the stock when its market price doubles. If he expect the stock price to increase 12% per year, how long do Shayam expect to wait before selling the stock. **[8]**

Q6) a) Explain with suitable example nominal interest rate and effective annual interest rate. **[8]**

b) What is meant by sinking fund? Ram wants to set up a college savings plan for his daughter. She is currently 10 years old and will go to college at age 18. Assume that when she starts college, she will need at least Rs 100000 in the bank. How much money do Ram need to save each year in order to have necessary funds if the current rate of interest is 7%. Assume that end-of-year payments are made. **[8]**

Q7) a) Differentiate between **[8]**

i) General inflation rate and specific inflation rate

ii) Consumer price index and producer price index

b) ABC company is considering the acquisition of a new metal-cutting machine. The required initial investment of Rs 75000 and the projected cash benefits over a three year project life are as follows : **[8]**

End of Year	Net Cash Flow
0	- Rs 75000
1	Rs 24400
2	Rs 27340
3	Rs 55760

The MARR is known to be 15%.

i) Draw the cash flow diagram.

ii) Find the net present worth of the project.

iii) Shall the Company purchase the new metal-cutting machine?

a) What is annual-equivalence analysis and benefits of this analysis? **[8]**

b) A Company is planning an investment to produce sensors and control systems that have been requested by a fruit-drying company. The work would be completed in five years through a contractor. The project is expected to generate the following cash flows in actual dollars: **[8]**

Year(n)	Net Cash Flow in Actual Dollars
0	-$75000
1	$32000
2	$35700
3	$32800
4	$29000
5	$58000

a) What are the equivalent year-zero dollars (constant dollars) if the general inflation rate is 5% per year?

b) Compute the present worth of these cash flows in constant dollars at inflation free interest rate of 10% using deflation method.

Q9) a) Explain in detail with suitable example the balance sheet statement of a company. **[10]**

b) Consider the following accounting information for a computer system:

Cost basis of the asset (I) = $10000;

Useful life (N) = 5 years;

Estimated salvage value (S) = $2000.

Compute the annual depreciation allowances and the resulting book values, using the double-declining-balance depreciation method. Illustrate the result using a diagram. **[8]**

OR

Q10) a) Explain in detail the classification of costs for financial statements. **[10]**

b) Define the following terms **[8]**

i) Depreciation   ii) Cost basis

iii) Debt ratio   iv) Times-interest-earned ratio

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