



Paper code: HSAI 214 (AIDS & AIML) / HSAR 211 (AR & IIOT)									L	T/P	Credits	
Subject: Engineering Economics									2	0	2	
Marking Scheme: Teachers Continuous Evaluation: As per university examination norms in NUES mode from time to time. End Term Theory Examination: As per university examination norms in NUES mode from time to time.												
INSTRUCTIONS TO PAPER SETTERS: Maximum Marks : As per University norms												
<div>➤ There should be 9 questions in the end term examination question paper</div> <div>➤ Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions.</div> <div>➤ Apart from Question No. 1, the rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, students may be asked to attempt only 1 question from each unit.</div> <div>➤ The questions are to be framed keeping in view the learning outcomes of course/paper. The standard/ level of the questions to be asked should be at the level of the prescribed textbooks.</div> <div>➤ The requirement of (scientific) calculators/ log-tables/ data-tables may be specified if required</div>												
Course Outcomes [Bloom’s Knowledge Level (KL)]: CO1: Ability to do understand economic analysis. [K1, K2] CO2: Ability to understand and use cash flow method. [K1, K2] CO3: Ability to determine economic life of an asset and replacement method. [K2, K3] CO4: Ability to do depreciation analysis and inflation adjustment. [K3, K4]												
CO/PO	PO01	PO02	PO03	PO04	PO05	PO06	PO07	PO08	PO09	PO10	PO11	PO12
CO1	-	1	-	-	1	2	3	-	-	-	3	1
CO2	-	1	-	-	1	2	3	-	-	-	3	1
CO3	-	1	-	-	1	2	3	-	-	-	3	1
CO4	-	1	-	-	1	2	3	-	-	-	3	1
Course Content											No. of Lectures	
Unit I Introduction, Flow in an economy, Law of Supply and Demand, Concept of Engineering Economics, Elements of Cost, Break-Even Analysis, P/V ratio, examples of simple economic analysis, Interest Formulas and Their Applications.											[6]	
Unit II Present Worth Method of Comparison: Introduction, Revenue Dominated Cash Flow Diagram, CostDominated Cash Flow Diagram Future Worth Method: Introduction, Revenue Dominated Cash Flow Diagram, Cost-Dominated Cash Flow Diagram Annual Equivalent Method: Introduction,											[6]	



Revenue Dominated Cash Flow Diagram, Cost-Dominated Cash Flow Diagram, Alternate approach. Rate of Return Method.	
Unit III Replacement and Maintenance Analysis: Introduction, Types, Determination of economic life of an asset, replacement method. Depreciation: Introduction and methods of depreciation (Straight line, Declining Balance, Sum of the Years Digit method, Sinking fund method, Service output method). Evaluation of public alternative.	[6]
Unit IV Inflation Adjustment: Introduction, Procedure to adjust Inflation, Inflation Adjusted Economic Life of Machines. Inventory Control and Methods, Make or buy decision, Project Management: Introduction, Phases, CPM, Gantt/Time Chart, PERT. Value Analysis / Value Engineering	[6]
Text Books: [T1] R. Paneerselvam, “Engineering Economics”, PHI Learning, New Delhi, 2012.	
Reference Books: [R1] David L. Whitman, Ronald E. Terry, Fundamentals of Engineering Economics and Decision Analysis, Morgan & Claypool Publishers (2012). [R2] John A. White, Kellie Grasman, Fundamentals of Engineering Economic Analysis, Wiley (2013). [R3] Leland Blank, Antony Tarquin, Engineering Economy, McGraw Hill, 2002 [R4] K. L. Sharma, An Introduction to Engineering Economics, Momentum Press, 2015. [R5] Chan S. Park, Fundamentals of Engineering Economics, Global Edition-Pearson, (2019). [R6] Zahid A. Khan, Arshad N. Siddiquee, Brajesh Kumar, Mustufa H. Abidi, Principles of Engineering Economics with Applications, Cambridge University Press (2018).	