Theory	Tutorial	Practical	Internal		Final		Total
			Theory	Practical	Theory	Practical	50
2	1	0	10	0	40		

Course Objectives

To gain the knowledge of project management as well as some concept of organization behavior

1. **Introduction** (6 hrs)
   1.1 Concept of project management
   1.2 Project life cycle
   1.3 Project environment
   1.4 Project impacts: social, economical and environmental

2. **Project planning and control** (10 hrs)
   2.1 Work breakdown structure
   2.2 Project network construction
   2.3 Network analysis by CPM & PERT
   2.4 Gantt Chart
   2.5 Project control cycle
   2.6 Project information and management

3. **Organization** (2 hrs)
   3.1 Organization and its characteristics
   3.2 Organization chart and types of organization

4. **Management** (6 hrs)
   4.1 Functions and Roles of management
   4.2 Management by objectives
   4.3 Functions of personnel management
   4.4 Cost management, Role management, Time management, HR management
   4.5 Job analysis and description

5. **Leadership and Industrial relations** (6 hrs)
   5.1 Leadership styles and theories of motivation
   5.2 Necessity of industrial relationship
   5.3 Trade union and Trade union movement in Nepal
   5.4 Health, safety and compensation

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9. [unclear text]
  9.1 Computable languages and [unclear]
  9.2 NP-complete problems

References

1. R. McNaughton, *"Elementary Computability, Formal Languages and Automata"*, Prentice Hall of India.
2. H.R. Lewis, and C.H. Papadimitriou, *"Element of the theory of Computation"*, Eastern Economy Edition, Prentice Hall of India.
3. E. Engeler, *"Introduction to the Theory of Computation"*, Academic Press.

Marks Distribution:

Chapter	Marks
1	12
2	8
3	10
4	8
5	10
6	8
7	8
8	8
9	8
Total	80

Year: III

Teaching Schedule Hours/Week			Examination Scheme				
Theory	Tutorial	Practical	Internal		Final		Total
			Theory	Practical	Theory	Practical	
3	1	0	20	0	80	0	100

Course objectives
To provide the knowledge of automata, and to apply the concept of Context free language, and complexity theory

1. **Finite automata and regular expression**   (7 hrs)
   1.1 Review of set theory
   1.2 Finite state system
   1.3 Non-deterministic finite automata
   1.4 NFA to DFA Conversion
   1.5 Regular expressions
   1.6 Arden's Theorem   (4 hrs)

2. **Properties of regular sets**
   1.1 The pumping lemma for regular sets
   1.2 Closure properties of regular sets
   1.3 Decision algorithms for regular sets   (6 hrs)

3. **Context-free grammars**
   3.1 Derivative trees and its ambiguity
   3.2 Simplification of context-free grammars.
   3.3 Normal forms (CNF and GNF)   (4 hrs)

4. **Pushdown automata**   (6 hrs)
   4.1 Introduction
   4.2 Pushdown-automata and its design.

5. **Properties of context-free languages (CFL)**
   5.1 The pumping lemma for CFL's.
   5.2 Closure properties of CFL's
   5.3 Decision algorithms for CFL's.   (5 hrs)

6. **Turing Machines:**
   6.1 Computable languages and functions.   (5 hrs)
   6.2 Church's hypothesis

7. **Undecidability**
   7.1 Properties of recursive and recursively enummerable languages.
   7.2 Universal Turing machines and undecidable problem.
   7.3 Recursive function theory.   (4 hrs)

8. **Computational complexity theory**