

# **AMEL06 SOCIETY, ENVIRONMENT & ENGINEERING**

## **UNIT-1 DEFINITION AND SCOPE OF SOCIOLOGY**

Introduction, History of Sociology, Meaning of Sociology, Definition of Sociology, Nature of Sociology, Scope of Sociology, Specialist OR Formalistic School, Synthetic School of Thought, Conclusion on Scope of Sociology, Differences between Social Sciences and Physical Sciences, Sociology and Other Social Sciences, Sociology and Psychology, Sociology and Anthropology, Sociology and Political Science, Advantages of Study of Sociology,

## **UNIT-2 BASIC SOCIOLOGICAL CONCEPT**

Society, Basic Characteristics of Society, Factors affecting Social Life of a man, Social factors, Biological factors, External factors, Industrial societies/Technological society, Community, Characteristics of a Community, Comparison between Society and Community, Association, Characteristics of Association, Significance of Institution, Distinction between Institution and Community, Customs, Difference between Institution and Customs.

## **UNIT-3 SOCIAL INSTITUTION**

Types of social institution, Origin of society, Theory of Divine origin, Force theory, Patriarchal and Matriarchal theories, theory of social contract, Organic theory, Types of socialization process of socialization, Factors responsible to socialization, Advantages of socialization, Marriage forms of marriage, Advantages of monogamy, selection of marriage. Partners. Divorce Reasons for Divorce, Marriage system in India, Hindu marriages Act. Divorce under marriage act 1955.

## **UNIT-4.SOCIAL CHANGE**

Factors of social change, social movements, Types of social movements. Theories of social change, Resistance to social change. General continues responsible for social change. Causes responsible for opposition to social changes. Effects of conflict in social change, role of sociologists in Promoting social change, Social disorganization, Causes of social disorganization, Symptoms of social disorganization, Difference between social organization and Disorganization.

## **UNIT-5 SOCIAL CONTROL**

Social control and self-control necessity of social control, means of social control informal means of social control formal methods of Social control. Agencies of social control, person's views about systems, cybernetic communication and control

## **UNIT-6 SOCIAL PROBLEMS:**

Deviance, social problems classification of social problems, causes of social problems some important social problem, major social problems.

## **UNIT-7 CULTURE**

What culture is? Characteristics of culture. Concept connected with culture characteristics of lag, causes of culture lag, civilization. Difference between culture and civilization, Acquired behaviour, culture Diffusion.

### **UNIT-8. CAPITALISM, MARXISM AND SOCIALISM:**

Some important features of capitalism. Advantages of capitalism, Disadvantages of capitalism, communism or Marxism. Basic features of communism, Difference between capitalism of communism, socialism, silent features of socialism. Difference between socialism and communism.

### **UNIT-9 SOCIOLOGY AND TECHNICAL CHANGES**

Science and society , Advantages of science and technology in the economic Development , Technology and women , Influence of Technology on social Institutions , Influence of family systems, Demerits, Influence of technology on religion influence of technology on rural life.

### **UNIT-10 HISTORICAL PERSPECTIVE:**

Introduction, phases in development of Technology, Science & technology in India after independence. Technology policy statement 1983. Role of Science and technology in development. Super conductivity programmed, Instrument development program.

### **UNIT-11. TECHNOLOGY ASSESSMENT AND TRANSFER:**

Meaning of Technology Assessment and Transfer what Technology is information Technology, Technology Assessment, Importance of Technology, Technology forecasting and upgradation, Appropriate. Technology, criteria for success of Technology Transfer, Transfer of technology from laboratory to field.

### **UNIT-12 CYBERNETICS**

Introduction, what cybernetics is? Control system

### **UNIT-13 ENGINEER IN SOCIETY**

Optimization, Limitations of optimization, concepts of optimization. Advantages of optimization, Methods of optimization operation research, optimization of Human Resources. Important of Human Resources, Human Resources planning, Needs and strategies for Human Resources planning, factors affecting manpower planning. Productivity, Labour productivity, importance of productivity, Benefits of productivity measures of increase of productivity, Automation, formulation of problem, formulation of problems and alternative solution.

### **UNIT-14 INFLATION AND POVERTY**

Inflation, causes of Inflation in India, measures to control inflation and deflation; poverty, Industrialization of country; conclusion.

### **UNIT-15. ENVIRONMENTAL DEGRADATION AND CONTROL**

Meaning of Environment ; Environment pollution, pollution, classification of pollutants; Effects of pollution on Living systems, causes of Environmental pollution , Kinds of pollution, suggestion for improving , atmospheric pollution , sources of Air pollutants, Geographical factors affecting air pollution. Treatment and disposal of sewage, treatment of sewage.

### **UNIT-16 PLANT LAYOUT AND SITE SELECTION**

Nature of location decisions, choice of site for location, Urban Area, selection of Site in Rural Area, Suburban Area, Comparison of site for location of facilities, models of location of service facilities, Economic survey for site selection, plant layout, Advantages of good layout, Principles of plant layout, Types of plant layout.

### **UNIT-17 PERSONAL MANAGEMENT**

Definition of personnel management, importance of personnel management, and principle of personnel management objectives of personnel management functions of personnel management, Recruitment and selection of employees. Manpower planning ; Procedure of appointing an employee in a factory ,Industrial safety , Accident Human causes, Effect of accidents, Effect to the Industry , Effect on worker, cost of society, Types of Accidents , Safety procedures.

### **UNIT-18 INDUSTRIAL ACTS**

Indian Boiler Act 1923, The Indian factories Act 1948, Health provisions. Important provisions of the factory Act regarding safety of workers, welfare provisions , penalties for breach of provisions of the act, Indian Electricity Act, Supply & Use of Energy, The Employee's State Insurance Act 1948, Workmen's compensation Act, The Industrial Dispute Act, 1947, Strikes and Lockouts, The payment of wages Act 1936 , The Indian Trade Union Act, 1926 , Minimum Wages Act 1948.

### **UNIT-19 STANDARDS**

Indian standard Institution, BIS Publications, ISO-9000 Quality systems.

### **UNIT-20 FUNCTIONS OF MANAGEMENT:**

Difference between Management , Administration, Organization, Functions of management , Planning , Production planning and control , steps in production planning and control , Routing procedure of Routing , Scheduling & Loading scheduling and loading , Advantages of planning. Types of organization structures, functional organization, Directing , Nature of Directing, Principles of Direction, controlling , characteristics of Good control systems, co-ordination, Tools of co-ordination, Types of co-ordination, principles of co-ordination, co-ordination Vs co-operation. Motivation

Importance of motivation, Techniques of motivation, Methods of participation, Extent of worker's participation in management, worker's participation in Indian Industries, Human needs, Importance of fulfillment of needs, Maslow's theory of motivation, Leadership, leadership Style.

### **Reference books:**

1. Society and Environment 24th Edition Paperback – 1 January 2012 by Chauhan A S (Author)
2. Updated edition of Environmental Engineering, previous Iyco - authored by J. Jeffrey Peirce and P. Arne Vesilind.