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| Technology Environment and society  **Course Objectives:** The course has been devised to provide knowledge of environment, technology and its impact on society.  It would be helpful to the students to understand the global, national and local environmental issues and challenges of the information society.   1. **Technology (8hours)**    1. Definition,    2. Impact of technology on environment & society,    3. Benefits of technology  due to new inventions,    4. Conflict of technology, technology creates opportunity for society to change    5. Appropriate technology,    6. Intermediate technology, labor based and labor intensive technology,    7. Shifts in employment due to technological advancement,    8. Role of technology to unmask old social problems, society’s control of technology,    9. Impact of technology on culture, tradition and social values,    10. Technology is irreversible,    11. Agricultural age, industrial age and information age,    12. Characteristics of information society,    13. Information as power and wealth      1. **Development approach(6 hours)**    1. LEP (labor based, environment friendly and participatory),    2. Community management, engineers role as facilitator,    3. Key features of infrastructure development policies of Nepal,    4. Ethnographic approach to collect information ,    5. Participatory approach as community empowerment ,    6. Participatory tools, focus group discussions, key informants interview,    7. Participatory observation, structured questionnaire,    8. Resource mapping, wealth ranking, poverty definition      1. **Brief history of human civilization (4 hours)**    1. Early civilization,    2. Great renaissance of Europe,    3. Early part of industrial revolution,    4. Transformation of industrial society into information society,    5. Impact of world war 1 & 2, Population explosion,    6. Rise of environmental issues,    7. Climate change as a threat to human civilization      1. **Environment (3 hours)**    1. Definition,    2. Importance, ecology & ecosystem,    3. Conservation of environment,    4. Optimum utilization of natural resources,    5. Renewable and non renewable resources,    6. Conflict of resources,    7. Global environmental issues,    8. Environmental issues of Nepal      1. **Water and air pollution (6 hours)**    1. Fecal -oral infection transmission route    2. Preventive measures,    3. On site sanitation(including eco -sanitation),    4. Importance of health education,    5. Organic pollution,    6. Inorganic pollution( nitrate, fluoride, iron, manganese, calcium arsenic, heavy metals),  water pollution due to insecticides and pesticides    7. Sources, causes & impacts of airpolution    8. Mitigation measures,    9. Indoor air pollution,    10. Severity of its problems in Nepal      1. **Climate change (3 hours)**    1. Definition, causes, impacts,    2. Mitigation measures,    3. International efforts to mitigate its problems,    4. Bio –gas, organic farming,    5. Deforestation and its consequences,    6. Importance of national parks, conservation areas and forestation programs in Nepal   **References:**   1. B. C. Punmia, Ashok Kumar Jain and Arun Kumar Jain, "Environmental Engineering",  Laxmi Publications (P) Ltd., New Delhi, 1998 2. H.G. Wells, "Brief History of Civilization" 3. J. Neharu, "Glimps of World History"   **Examination scheme** The question will cover all the chapters in the syllabus. The evaluation scheme will be as indicated in the table below:   |  |  |  | | --- | --- | --- | | **Chapters** | **Hours** | **Marks Distribution\*** | | 1 | 8 | 10 | | 2 | 6 | 8 | | 3 | 4 | 4 | | 4 | 3 | 4 | | 5 | 6 | 10 | | 6 | 3 | 4 | | **Total** | **30** | **40** |   **\*Note: There may be minor deviation in marks distribution.** |