

PROFORMA OF EVENT

Name of Department:- **CHEMISTRY**

Event:- EXTRAMURAL TALK

Date:- 01.3.2017

Title of the Topic: - **EVALUATION OF DRINKING WATER FROM
VARIOUS SOURCES**

Name and Designation of the Resource Person(s):

**Mr. Saroj Ranjan Swain, Assistant Professor, Department of Chemistry, L.N
College, Korua**

His area of specialization was Physical Chemistry. His teaching experience was 25 years at Korua Degree College. He was a member of OCS. He was the resource person to the Seminars for different colleges. He was a Chair Person for various CBSE & ICSE schools in Science Exhibition.

Abstract of the Topic: -**Evaluation of Drinking Water from Various Sources**

Drinking water quality is the great public health concern because it is a major risk factor for high incidence of diarrheal diseases. In the recent years, the prevalence rate of diarrhea has been found the highest in Myagdi district. This study was carried out to assess the quality of drinking water from different natural sources. Clean and safe water is an absolute need for health and productive life. The quality of the water supplied is important in determining the health of individuals and whole communities. The problem is profound in developed countries where water treatment does not exist in most of the places or is inadequate, if available though. Sewage pollutes surface and ground water, domestic waste, industrial and agricultural effluents containing simple nutrients to highly toxic substances. The pollution of drinking water is responsible for large number of mortalities and morbidities due to water borne diseases like typhoid, cholera, diarrhoea, dysentery, hepatitis, as well as many protozoan and helminthes infections. The present study intends to assess the physicochemical and microbiological quality of drinking water from different natural sources. The primary goal of this research is to analyze the drinking water quality parameters to ensure that the water is safe for drinking. The values of physico-chemical and microbiological parameters

were compared with national standard and WHO guideline value and statistical analysis..Out of eighty-four water samples analyzed, drinking water quality parameters of all water samples were found to be within WHO guidelines and national standard, except Arsenic and total coli form. Where arsenic values were found to lie within national standard only but it exceeds WHO guidelines value. The microbiological analysis of water samples revealed the presence of total coli form contamination for a total coli form in 86.90% of samples (natural sources 54.55%, reservoir 100% and taps samples 91.18%., The percentage of total coli form contamination for all 84 the contaminated samples are also categorized according to the risk grade for natural source, reservoir and tap samples. The data describes there is very tnae high risk in taps. Change in water quality is reflected in its physical, biological and chemical conditions; and these in turn are influenced by physical and anthropogenic activities. Some chemicals, notably iron, ammonia, nitrates and arsenic have adverse public health impacts. The transmission of waterborne diseases still a matter of major concern, despite worldwide efforts and modern technology being utilized for the production of safe drinking water. T he result showed that the conductivity of all water samples was found to lie within WHO guideline value and national standard. The conductivity of water does not have direct health consequences; however, high conductivity indicates the addition of some pollutants to it. Chloride can be an indicator of pollution. Chloride in drinking water originates from natural sources, sewages, industrial effluents, and urban runoff containing saline intrusion. Usually high concentrations of chloride in combination with nitrate or ammonium show that the water is contaminated by domestic natural sources. High chloride concentrations are corrosive to metals in the distribution system; particularly in waters of low alkalinity. The study did not show high concentration of chloride in the water samples collected from different natural sources, reservoir and taps. Water is stored in various parts of the world but not evenly distributed all water over the earth. It is said to be a universal solvent. Various sources of are- Sea, lake, rain, well, stream, borehole and pond. It is used for washing, of water drinking, generating electricity etc. Below are the different uses in various fields: # Domestic uses of water #Water use for agriculture # Industrial uses of water 15 % of water is consumed for domestic purpose. Water is used for inking, bathing, cooking food and washing dishes, clothes, fruits, vegetables and brushing teeth. Agriculture is the largest consumer of water. About 70% of water is used for irrigation. Water is necessary for gardening, farming and fisheries. Plants require water to grow. During the process of photosynthesis they consume water. To yield crops, fruits, flowers, vegetables they need sufficient water, manure, sunlight and oxygen. It is either used in creating or to cool the

equipment used for creating the product. Industrial water is used for washing, cooling, processing, the transporting, diluting or fabricating of a product. Maximum amount of water is used in the production of chemical, paper and food. Other uses are it is used in transportation, manufacturing hydroelectric power, removal of body wastes, tourism and recreation. Water samples were within national standard and WHO guideline. However, arsenic was not in satisfactory level. The study showed coli form contamination to be the major problem with drinking water. Microbiological analysis showed the water was not safe for drinking without purification.

Key Word: Drinking water quality, WHO, Clean and safe

Remarks:-

Name of the Presiding Person:- Dr (.Mrs.). Heeramani Behura

REPORT by Mrs.Pramilarani Behera, HOD Chemistry

An Extramural Talk entitled “**Evaluation of Drinking Water from various sources**” was organized by the department of chemistry, Tulasi Women’s College, Kendrapara on dated 01.03.2017 at 2.30 PM. The extramural talk was inaugurated by Dr. Heeramani Behura, Principal, Tulasi Women’s College, Kendrapara. Mrs. Pramilarani Behera, H.O.D, Chemistry delivered the welcome address and brief theme of the extramural talk. Mr. Saroj Ranjan Swain, Assistant Professor in chemistry, L.N. College. Korua, was the resource person. He delivered about “Evaluation of Drinking water from various sources” through ppt. He explained the physicochemical and micro biological quality of drinking water from different natural sources and ensuring the water was safe for drinking or not by analysis of the water quality parameters.

More than 62 students, faculty members and demonstrators of the college were interacted with the resource person. This topic was informative and environmental chemistry. A few of the students raised questions to the resource person and were solved by the interaction.

Vote of thanks was offered by Mrs. Lipika Rout, Demonstrator of chemistry.

