A.S.D GOVT. DEGREE COLLEGE FOR WOMEN (A),

(Re- Accredited by NAAC with B Grade)

Jagannaickpur, Kakinada-533002, East Godavari, AP

DEPARTMENT OF ZOOLOGY & AQUACULTURE TECHNOLOGY

2019-2020

Extension Activity

With

St. Xavier's School Children

ASD Govt. Degree College for Women (A)

Jagannaickpur, Kakinada

Activity register 2019

Date	3.02.2020.
Conducted through (DRC/JKC/NCC/NSS/Department)	**Zoology department**
Nature of Activity (Seminar/Workshop/Ext. Lecturer etc.)	**EXTENSION ACTIVITY**
Title of the Activity	**EXTENSION ACTIVITY**
Name of the Department/Committee	**ZOOLOGY**
Details of Resource Persons (Name. Designation etc.)	**U.Satyanarayana Lec.in zoology**
No. of Students Participated	50
Brief Report on the Activity	**Discussed and explained about carbohydrate analysis and how to control sugar levels in the body**
Name of the Lecturers who Planned & Conducted the Activity	**U. Satyanarayana** **B. Sonia** **N.Veera chanti**
Signature of the in Charge	**DR.K. ARUNA mam lecturer in microbiology** 3/2/2020
Signature of the Principal	
Remarks	

Methodology for Carbohydrates

Determination of total carbohydrates by anthrone method

Carbohydrates are the important components of storage and structural materials in the plants. They exist as free sugars and polysaccharides. The basic units of carbohydrates are the monosaccharides which cannot be split by hydrolysis into more simpler sugars. The carbohydrate content can be measured by hydrolyzing the polysaccharides into simples sugars by acid hydrolysis and estimating the resultant monosaccharides.

Principle

Carbohydrates are first hydrolysed into simple sugars using dilute hydrochloric acid. In hot acidic medium glucose is dehydrated to hydroxymethyl furfural. This compound forms with anthrone a gree colored product with an absorption maximum at 630nm.

Materials

⇒ 2.5 N-HCl

- *Anthrone Reagent:* Dissolve 200mg anthrone in 100mL of ice cold 95% H_2SO_4. Prepare fresh before use.
- *Standard Glucose:* Stock – Dissolve 100mg in 100mL water. Working standard – 10mL of stock diluted to 100mL with distilled water. Store refrigerated after adding a few drops of toluene.

Procedure

1. Weigh 100mg of the sample into a boiling tube.
2. Hydrolyse by keeping it in boiling water bath for 3 hours with 5mL of 2.5 N-HCl and cool to room temperature.
3. Neutralise it with solid sodium carbonate until the effervescence ceases.
4. Make up the volume to 100mL and centrifuge.
5. Collect the supernatant and take 0.5 and 1mL aliquots for analysis.
6. Prepare the standards by taking 0, 0.2, 0.4, 0.6, 0.8 and 1mL of the working standard. '0' serves as blank.
7. Make up the volume to 1mL in all the tubes including the sample tubes by adding distilled water.

8. Then add 4mL of anthrone reagent.
9. Heat for eight minutes in a boiling water bath.
10. Cool rapidly and read the green to dark green color at 630nm.
11. Draw a standard graph by plotting concentration of the standard on the *X*-axis versus absorbance on the *Y*-axis.
12. From the graph calculate the amount of carbohydrate present in the sample tube.

Calculation

Amount of carbohydrate present in 100mg of the sample =(mg of glucose ÷ Volume of test sample) X 100

Types of Diabetes Mellitus

- What Is Diabetes Mellitus?
- Prediabetes
- Type 1 Diabetes
- Type 2 Diabetes
- Gestational Diabetes
- Other Forms of Diabetes

What Is Diabetes Mellitus?

Diabetes mellitus, also called diabetes, is a term for several conditions involving how your body turns food into energy.

When you eat a carbohydrate, your body turns it into a sugar called glucose and sends that to your bloodstream. Your pancreas releases insulin, a hormone that helps move glucose from your blood into your cells, which use it for energy.

When you have diabetes and don't get treatment, your body doesn't use insulin like it should. Too much glucose stays in your blood, a condition usually called high blood sugar. This can cause health problems that may be serious or even life-threatening.

There's no cure for diabetes. But with treatment and lifestyle changes, you can live a long, healthy life.

Diabetes comes in different forms, depending on the cause.

Prediabetes

Prediabetes is when your blood sugar is higher than it should be but not high enough for your doctor to diagnose diabetes. More than a third of people in the United States have it, but most of them don't know it.

Prediabetes can make you more likely to get type 2 diabetes and heart disease. Exercising more and losing extra pounds, even as little as 5% to 7% of your body weight, can lower those risks.

Type 1 Diabetes

Type 1 diabetes is also called insulin-dependent diabetes. It used to be called juvenile-onset diabetes, because it often begins in childhood.

Type 1 diabetes is an autoimmune condition. It happens when your body attacks your pancreas with antibodies. The organ is damaged and doesn't make insulin.

Your genes might cause this type of diabetes. It could also happen because of problems with cells in your pancreas that make insulin.

Many of the health problems that can come with type 1 happen because of damage to tiny blood vessels in your eyes (called diabetic retinopathy), nerves (diabetic neuropathy), and kidneys (diabetic nephropathy). People with type 1 also have a higher risk of heart disease and stroke.

Treatment for type 1 diabetes involves injecting insulin into the fatty tissue just under your skin. You might use:

- Syringes
- Insulin pens that use prefilled cartridges and a thin needle
- Jet injectors that use high-pressure air to send a spray of insulin through your skin
- Pumps that send insulin through a tube to a catheter under the skin of your belly

A test called the A1C blood test estimates your blood sugar levels over the previous three months. Your doctor uses it to see how well your blood sugar is controlled. That helps them know your risk of complications.

If you have type 1 diabetes, you'll need to make changes including:

- Frequent testing of your blood sugar levels
- Careful meal planning
- Daily exercise
- Taking insulin and other medications as needed

Type 2 Diabetes

Type 2 diabetes used to be called non-insulin-dependent or adult-onset diabetes. But it's become more common in children and teens over the past 20 years, largely because more young people are overweight or obese. About 90% of people with diabetes have type 2.

When you have type 2 diabetes, your pancreas usually creates some insulin. But either it's not enough or your body doesn't use it like it should. Insulin resistance, when your cells don't respond to insulin, usually happens in fat, liver, and muscle cells.

Type 2 diabetes is often milder than type 1. But it can still cause major health complications, especially in the tiny blood vessels in your kidneys, nerves, and eyes. Type 2 also raises your risk of heart disease and stroke.

People who are obese -- more than 20% over their target body weight for their height -- have an especially high risk of type 2 diabetes and the health problems that can follow. Obesity often causes insulin resistance, so your pancreas has to work harder to make more insulin. But it's still not enough to keep your blood sugar levels where they should be.

Treatment for type 2 diabetes involves keeping a healthy weight, eating right, and exercising. Some people need medication, too.

Your doctor might do an A1C test a few times a year to see how well you've been controlling your blood sugar.

Other Forms of Diabetes

In 1% to 5% of people who have diabetes, other conditions might be the cause. These include diseases of the pancreas, certain surgeries and medications, and infections. In these cases, your doctor might want to keep an eye on your blood sugar levels.

Extension Activity

by: St. Xaviers School

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1.	P. Vasu Varma	Very good	P. Vasu Varma.
2.	P. Dhanush Teja	Very Good	P. Dhanush.
3.	Krishana chaithanya	excellent	K. Krishana chaithanya
4)	M. Srini Vas	excellent	M. Jyothi.
5)	M. Mahesh	excellent	M. Mahesh
6)	SD. Jafar Ali	excellent	SD. Jafar
7	English and Social M. Mary Grace olivi	excellent	Faculty
8	V. sudhakani P	Excellent	BB faculty
9	M. YASwanth	excellent	

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12	R. Ram Satish	Good	
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