

St Joseph's Degree & PG College

*Department of
Mathematics & Statistics*

*Odd Semester Report
(June-October)*

2014-15

Mathematics & Statistics Semester Report

Guest lecture

The Department of Mathematics & Statistics is planning to arrange a motivational talk on “**Career Opportunities**” for all the students of B.Sc second and third years on **1st July 2014** at 11.30 AM. The aim of the Programme is to make the science students enthusiastic towards their career and also to encourage the slow learners. Mr. P. Chandrasekhar, Technical Director-Project Development of Technique Design Group is the resource person.

Industrial visit

This is a correspondence from the Department of Mathematics & Statistics, St. Josephs Degree & PG College. Industrial Visit to **VIJAYA MILK PRODUCT FACTORY**, AP Dairy Development Cooperative Federation Ltd is a part of our Curriculum and we request your cooperation in this regard in providing experiential learning for III & II Year (MSCs) students on 4th July 2014 at Tharnaka, Hyderabad.

VIJAYA MILK PRODUCT FACTORY

AP Dairy Development Cooperative Federation Ltd:

It manufactures milk and milk products under the popular brand name Vijaya and sells the same not only in A.P but across the country in various metros. Vijay has retained the trust and faith of the common consumer for the last 4 decades.

It all started in the year 1960 as integrated milk project under the auspices of the Dairy Development Department for collection of surplus milk in rural areas at the door steps of the farmers and to provide quality milk to the urban and semi urban consumers. Accordingly rural surplus milk was procured in villages and transported to a network of chilling centers and further transported to Hyderabad by road and rail tankers to meet the consumer’s demand of the twin cities.

In order to conserve the entire surplus milk, particularly in flush season, a milk conservation plant (Milk Production Factory) with a handling capacity of 1.50 lakh liters per day was established in 1967 it was established as a Central Dairy. Since 1971, the collection of milk through the cooperatives has been over 85 percent of the total milk collection of organized sector in the country. The number of milk cooperative in the

country during 1988 was 58,830 which is now increased to about 70,000 societies. For long time, prevented private enterprises from the government setting up dairy units and competing with the cooperatives. However, sector was delicensed in 1991, paving the path for private sector competition. A large number of small dairies have sprung up in major cities.

The milk products factory run by the A.P. Dairy Development Cooperative Federation (APDDCF) at Lalapet here has been awarded ISO 9001:2008 certification by the British Standard Institute for receiving, processing and supply of milk and manufacture and supply of milk products.

The certificate was given away by Venkataram Arabolu, Managing Director of the BSI Group India, at a modest function here on Monday, to APDDCF's Managing Director Mohammed Ali Rafath. The plant currently has a handling capacity of 4.5 lakh liters of milk a day and the liquid milk sale was 3.8 lakh litres. Under the brand 'Vijaya', products now sold include cooking butter, ghee, paneer, doodh peda, khoa, milk cake, curd and butter milk.

If you are allergic to cow's milk you will also need to avoid goat or sheep milk. All grazing mammals produce milk with similar proteins that can cause cross-reactions for people with dairy allergies.

Symptoms of Dairy Allergy:

Symptoms of an allergic reaction to dairy usually appear within minutes to two hours of eating dairy products or food containing dairy ingredients.

Symptoms may include:

- Skin reactions such as [hives](#) or [eczema](#).
- [Allergic conjunctivitis](#): Itchy, red, watery eyes.
- GI reactions such as [nausea](#), [abdominal pain](#), vomiting, or [diarrhea](#).
- Airways symptoms such as [wheezing](#) or [coughing](#) or runny nose.
- [Angioedema](#): Swelling of lips, tongue, or face
- Dairy allergies may cause a severe allergic reaction called [anaphylaxis](#).

MILK TESTING

The milk in tankers quantity of 9000-20000 with temperature 6-7 degrees. From each tanker a sample of 200 ml is taken for quality checking, which is done in few steps

1. Processing ---Through chillers with temperature 4-5 degrees
2. Plate heat exchange--Per hour 10000 milk is exchanged.
3. The raw milk is sent into tank with per tank quantity of 15000.
4. Cow milk is stored in two tanks & buffalo milk in two tanks.

- Processing through a method called **PASTURIZATION**.

1. Pasturization at 72 degrees for 15 seconds.
2. It is cooled for 5 degree temperature.
3. It is separated & homogenized here

Separation: To separate Cream from milk.

Homogenization: Here the fat size of the milk is reduced to small.

- The milk is stored in 8 tanks 15000 per tank. It is only stored here & differentiated into different types of milk according to fat percentage.
- Quality checking is done using Burette test
- Finally Bacteria test is done for any minute quality.
- Life time of the milk is 4 days when stored at 4 degrees

Preparation / weight Details

<u>Volume</u>	<u>st wt gms</u>	<u>range in gms</u>
1lt	1035	1032-1038
½ lit	518	515-520
200ml	208	205-210

TYPES OF MILK

<u>MILK TYPE</u>	<u>FAT</u>	<u>SNF</u>	<u>PACK SIZE</u>	<u>MRP</u>
Whole	6.0	9.0	500ml	25
Standardized	4.5	8.50	500ml	21
Toned	3.0	8.50	1000ml	38
Toned	3.0	8.50	500ml	19
Toned	3	8.5	200ml	18
Family	2.0	9.0	500ml	18
Double Toned	1.5	9.0	200ml	7
Double Toned	1.5	9	200ml	18
Diet milk	0.3	8.70	500ml	16
Cow	3.5	8.5	500ml	19
Vita	3	8.5	500ml	20

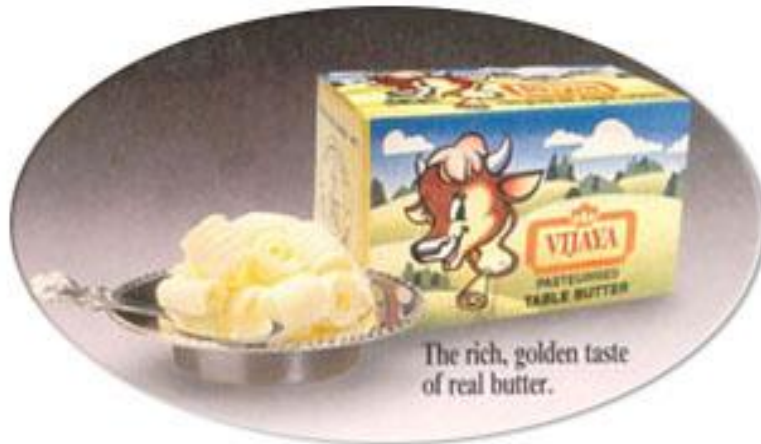
Using Drop Test the milk is Packed

MILK PRODUCTION

- Per day 4 lakhs-8 lakh milk is produced.
- PACKING MACHINE: Mainly two machines
RMS System : 1minute 45 packs
Setpac System : 1 minute 80 packs
After packing milk is stored at -0.3 degrees

MILK PRODUCTS

- BUTTER:



- 1) Has 80% Milk Fat with salt and color
- 2) Agmark Special Grade Products (Govt. of India Certification)
- 3) Needs refrigerated storage until consumed
- 4) Packed in A1. Foil packs with fully automatic machines
- 5) Pleasant flavor
- 6) Delicious taste and good spread ability
- 7) Useful as an additive in various food preparations.

- CURD

- 1) Fat 3.0% and SNF 8.5%
- 2) Best before 2 days & refrigerated
- 3) Homogenized
- 4) Made from Toned Milk



- BUTTER MILK:

- 1) Fermented milk product
- 2) Added salt and natural flavoring agents
- 3) Contains 1.0% Fat
- 4) Shelf-life of 1 day under refrigeration

5) Best for quenching thirst



● GHEE:

- 1) Granular and white in color
- 2) Agmark Special Grade Product (Govt. of India Certification)
- 3) Used as a cooking medium
- 4) Shelf-life of 6 months at ambient temperature
- 5) Hygienically manufactured and packed
- 6) Pleasant flavor



● PANEER:

- 1) Fat 3.0% and SNF 8.5%
- 2) Best before 2 days & refrigerated
- 3) Homogenized
- 4) Made from Toned Milk



- DoodhPeda:

- 1) Made from fresh milk
- 2) Desiccated sweetened milk product
- 3) Contains 20% Milk Fat
- 4) Smooth, granular texture
- 5) Shelf-life of 5 days at ambient temperature



OVERALL TURNOVER

The Andhra Pradesh Dairy Development Cooperative Federation (APDDCF) has planned to step up the sale of its Vijay brand of milk in the twin cities. It has fixed an ambitious target of 10 lakh liters a day.

An estimated 12 lakh liters of milk is sold every day in the State capital and of this, Vijay milk accounts for a mere 3.6 lakh liters. With a view to capture the market, the APDDCF has decided to open an additional 1,600 milk booths to take the total number of booths to 3,200.

Right now, the Federation is carrying out a comprehensive survey to identify the unnerved areas in the city. The market expansion plan aims at forging tie-ups with hotels, function halls and other office establishments to give a boost to the brand. Presently, it supplies about 2,000 liters to the military establishments and 500 liters to a few big hotels.

About three quarters of the milk produced is consumed at the household level. Of the milk supplied to the market, about 9-11 percent is processed in over 275 dairy plants and 83 milk product factories operated by cooperative, private dairy processors, and government milk schemes in the organized sector. Milk channeled through Operation Flood cooperatives is generally processed in dairy plants located in the rural areas and then transported into cities and towns. Operation Flood Milk productions account for about 10% of total milk production or 40% of the marketed output. The balance (about 90% of total production) is handled by the private traders and processors. About 45% of milk production is consumed as fluid milk. About 35% is processed into butter or ghee; about 7% is processed into Paneer (cottage cheese) and other cheeses, about 4% is converted into milk powder; and the balance is used for other products such as Dahi (yoghurt) and sweet meats. In recent years, there has been an increasing ice cream production as foreign companies have invested in India.

As a first step, a high voltage UPS costing Rs. 30 lakh will be set up at the Leapt plant. Presently, the transition period of five to ten minutes before the generator is switched on is resulting in heavy loss of milk, he added.

The APDDCF which has been set up to develop milk procurement, processing, packaging and marketing has a network of 5,000 villages, 4,673 milk collection centers and 85 milk routes covering 16 districts in the state. **It now has a turnover of Rs. 500 core and plans to raise it to Rs. 600 crore during 2013-14.**

DAIRY INFORMATION

At present we have total no. of 1600 Milk Booths, out of which 500 outlets are selling milk and milk products round the clock.

Dairy Information

1	No. of Milk Chilling Centers
99	No. of Bulk Cooling Centers
2	No. of Feed Mixing Plants

1	Union Training Centers
1353	No. of societies
2520	No. of MPACs
67	No. of Women Societies
201563	No. of Producers in Societies
42855	No. of Women Members
661	No. of Veterinary First Aid Centers
19	No. of Emergency Veterinary Routes

Government College Principals Visit

AP Government College principals visited our Mathematics & Statistics department on 11.08.2014 & 12.08.2014 and interacted with staff regarding department innovative teaching and learning practices.

NAAC Peer Team Visit Report of Mathematics & Statistics:

The NAAC Peer Team visited the department on the first day of their visit i.e. on 22nd August 2014 at 11.00 a.m. during their visit to the college on 22nd, 23rd and 24th of August 2014 Prof S.P. Singh the chair person of the team paid a quick visit to the department and glanced through the files maintained by the department where in the member coordinator Prof Jagadesha and member and member Prof Mathur interacted the members of department Mr D Srinivas Reddy introduced the faculty of Mathematics & Statistics department to the team members the team showed their keen interest on the innovative topics introduced in the curriculum after attaining autonomy they also wanted know how best the department is utilizing the autonomy in curriculum design and development the members went through the results of past few years and also enquired the about the remedial classes conducted by the department and appreciated the department for the work they are doing

They also went through the student projects and got impressed with the work done by the students and faculty especially they applauded the department for the few innovative projects the team spent almost 25 minutes & the members left the department with lots of words of appreciation.

Cyber Crime Program:

A talk on “Awareness of Cyber Crime”

A Talk on Cyber Crime awareness was organized by Mr. Srinivas Reddy, Head of the Department Mathematics on 14 October 2014 at 11.30 a.m. in Joseph’s Hall. Dr. B. Anuradha, ACP, Crime Branch, CCS, Detective Department, Hyderabad was the Chief Guest and Shri. R. Majid Ali Khan, Inspector of Police, Crime Branch was the Speaker. Dr. Deepika Gardner, Head Department of English welcomed and introduced the guest to the gathering. Inspector Khan gave valuable insights to the students through a well-prepared PowerPoint Presentation. He said that they should be vigilant, use their common sense and be cautious of criminal elements. He spoke about material and Non-material crimes, offences on internet, Face book, SMS etc. He said many highly educated people were falling into the trap of these criminals; therefore, this talk was organized. There are job frauds, identity thefts, credit card frauds, cyber terrorism etc. An interactive session was done at the end where students clarified their doubts. It was a real eye-opener and highly beneficial programme.

Workshop:

1. K. Harisha Chari, Department of Mathematics & Statistics attended the workshop on “MATLAB AND SIMULINK ACADEMIC TOUR- 2014” on 11th August 2014 at Begumpet, Hyderabad.
2. S. Vijayalaxmi, Department of Mathematics & Statistics attended the U. G. C. sponsored National workshop on “Research Methodology and Biostatistics” on 30th & 31st October 2014, organized by Department of Botany held at St Ann’s Women College Mehidpatnam, Hyderabad.

FDP:

1. Aarti Mathur, Department of Mathematics & Statistics participated in the Faculty development programme on “Advanced Numerical Methods and Techniques” on 27th September 2014, held at Aurora’s Auditorium, organized by Department of Mathematics Arora’s Degree & PG College, Chikkadapally, Hyderabad.