Department of Electronic Science
Group Discussion 2024-25
Class: S.Y.B.Sc

Name of Program	Group Discussion on "Modulation, Electromagnetic Spectrum and Logic Circuits"
Event Date	10/10/2024
Event Participants	S.Y.B.Sc Class
Event Time	1.25 pm
Mode of Conduction	Offline(Department of Electronic Science Lab)
Event Coordinator	Ms. Afroj M Dange, Ms. J.B. Khilari
No. of Beneficiary	08
Objectives	In the field of Electronics, Modulation, Electromagnetic Spectrum and Combinational Logic Circuits form the fundamental building blocks for understanding various systems and their behaviours.
	This activity aims to provide a concise yet informative overview of Modulation and Combinational, preparing college students for group discussions and further exploration in this domain.
Outcomes	Understanding signals and systems is crucial for college students pursuing Electrical and Electronics Engineering.
	This activity provided an overview of modulation, types of modulation, Electromagnetic Spectrum and essential analysis techniques.
	By participating in group discussions on this topic, students can further deepen their knowledge and develop problem-solving skills that will be beneficial in their academic and professional careers.
Enclosure	1] Event Photos
	2] Student Attendance
	3] Student group Report

Head
Dept. of Electronice Science
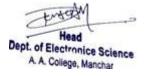A. A. College, Manchar

Rayat Shikshan Sanstha's
Annasaheb Awate Arts, Commerce & Hutatma Babu Genu Science College
Manchar, Tal. Ambegaon, Dist.Pune 410503
Department of Electronic Science
Group Discussion
Class: TYBSc 2024-25

Name of Program	Group Discussion on "Signals and Systems"
Event Date	02/09/2024
Event Participants	TYBSc Class
Event Time	12.40 pm to 1.25 pm
Mode of Conduction	Offline (Department of Electronic Science Lab)
Event Coordinator	Ms. Afroj M Dange
No. of Beneficiary	06
Objectives	In Electronics, Signals and Systems form the fundamental building blocks for understanding various systems and their behaviours. This activity aims to provide a concise yet informative overview of signals and systems, preparing college students for group discussions and further exploration.
Outcomes	Understanding signals and systems is crucial for college students pursuing Electrical and Electronics Engineering. This activity provided an overview of signals, systems, LTI systems, and essential analysis techniques. By participating in group discussions on this topic, students can further deepen their knowledge and develop problem-solving skills that will be beneficial in their academic and professional careers.
Enclosure	1] Event Photos
	2] Student Attendance
	3] Student group Report

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Department of Electronic Science
Group Discussion
Student Attendance

Date: 07/10/2024 **Class: SYBSc & TYBSc** **Time: 2.30 PM**

Sr. No	Roll No	Name of Student	Topic Name	Sign
Group 1:				
1	4531	Dhengale Karishma L.	Fourier Transform and Fourier series	*signature*
2	4535	Lohate Dipali Santosh		*signature*
3				
Group 2:				
1	4533	Ghule Somesh Nilesh	Laplace Transform	*signature*
2	4529	Abhang Prasad Dilip		*signature*
3				
Group 3:				
1	4532	Gawari Kishori Tulashiram	Signals and systems	*signature*
2	4530	Bhalerao Vedant Prakash		*signature*
3				
Group 4:				
1	4352	Vadekar Shreyash Ganesh	Analog Communication system	*signature*
2		Bahiram Avinash Ratilal		
3		Borhade Tanmay J.		
Group 5:				
1		Shinde Pratiksha	Digital Communication system	*signature*
2		Wable Sakshi		*signature*
3		Chaskar Dnyaneshwari		*Dnyaneshwari*

Head
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A. A. College, Manchar

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Department of Electronic Science
Group Discussion
A.Y. 2024-25

Group No/Name:	2. B	
Title: Communication electronic System Digital		
Date: 2\9\2024		
Venue: Electronic Science lab		

Description:

The Communication System is a system which describe the information exchange between two points. The process of transmission and reception of information is called communication. The major elements of communication are the transmitter of information, the channel or medium of communication and the Receiver of information.

Types of Communication system:- Depending on signal specification or technology, the Communication system is classified (1) analogue:- analogue technology communication data as electronic signals of varying frequency or amplitude. Broadcast and telephone transmission are common example of analogue technology.

(2) Digital:- In digital technology. The data are generated and processed in two states: High (represented as 1) and low (represented as 0). Digital technology stores and

transmits data in the form of 1s and 0s.

Digital Communication is a popular technology used today in electronic It allows us to access video conferencing, digital meetings, online education. etc. The data can travel upto long distance within a second with the help of the internet and other modes of digital Communication. it ~~only~~ not only saves money but also saves time and effort. It has also raised the standard of an individual's social, political, and ~~en~~ economic life.

The component of a Communication System are the transmitter Communication channel, and receiver. The transmitter transmits the data to the communcation channel, which further sends it to the receiver. Various devices are used in cascade or parallel with the transmitters and receivers for different purposes, such as modulation, demodulation, noise removal, Sampling, etc. the devices includes modulators, filters, amplifiers, encoders and decoders. A signals is an electromagnetic wave that carries information from one place to another, using a specific propagation medium, such as air, vacuum, water and Solid. in electronics, the signals is defined as a current, voltage or wave carring information. It can travel short distances or long distances depending on the requirements. The speed of a signal wave is equal to the speed of light. The signals are categorized as analog signals and digital signals. The noise in analog signals is high as compared to digital signal. It is due to the thresholding and high bandwidth of the digital signals.

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Department of Electronic Science
Group Discussion
A.Y. 2024-25

Group No/Name: 1. 'A	
Title: Laplace transform	
Date: 2/9/2024	
Venue: Electronic Science lab.	

Description:

Laplace transform is named in honour of the great French mathematician, Pierre Simon De Laplace (1749-1827). Like all transforms, the Laplace transform changes one signal into another according to some fixed set of rules of equations. The best way to convert differential equations into algebraic equations is the use of Laplace transformation.

Laplace transformation plays a major role in control system engineering. To analyze the control system, Laplace transforms of different functions have to be carried out. Both the properties of the Laplace transform and the inverse Laplace transformation are used in analyzing the dynamic control system. In this article, we will discuss in detail the definition of Laplace transform, its formula, properties, Laplace transform table and its applications in a detailed way.

What is the Laplace Transform?

A function is said to be a piecewise continuous function if it has a finite number of breaks and it does not blow up to infinity anywhere. Let us assume that the function $f(t)$ is a piecewise continuous function, then $f(t)$ is defined using the Laplace transform. The Laplace transform of a function is represented by $L\{f(t)\}$ or $F(s)$. Laplace transform helps to solve the differential equations, where it reduces the differential equation into an algebraic problem.

Laplace transform is the integral transform of the given derivative function with real variable t to convert into a complex function with variable s. For $t \geq 0$, let $f(t)$ be given and assume the function satisfies certain conditions to be stated later on. The Laplace transform of $f(t)$, that is denoted by $L\{f(t)\}$ or $F(s)$ is defined by the Laplace transform formula:-

$$F(s) = \int_{0}^{\infty} f(t) \cdot e^{-s \cdot t} \cdot dt$$

Properties of Laplace Transformation:-

1) Linearity
2) Time-shifting
3) Differentiation
4) Integration
5) Initial value theorem
6) Convolution
7) Final value theorem.

Conclusion:-

The Laplace transformation is a powerful mathematical tool that has proven to be essential in many fields of study.