

**Dr. Ambedkar College, Nagpur.  
Department Of Mathematics  
Academic Session - 2020-2021  
Report on Guest Lecture**

**PROGRAMME DETAILS**

**NAME OF THE PROGRAMME:** Guest Lecture on “**Triple Integrals**”

**NAME OF RESOURCE PERSON:** Dr. Mrs. Shilpa Samdurkar,  
Head, Department of Mathematics,  
Vidya Vikas Arts Commerce and Science College,  
Samudrapur.

**DAY & DATE:** **Saturday, 10<sup>th</sup> April 2021**

**TIME:** 2.00 PM to 3.00 PM

**NOTICE:**

**DR. AMBEDKAR COLLEGE, DEEKSHA BHOOMI, NAGPUR**

**NOTICE**

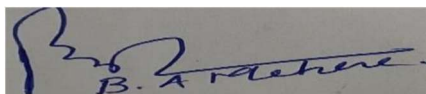
The students of B.Sc. Second Semester of Dr. Ambedkar College, Deeksha Bhoomi are hereby informed that, the guest lecture on , **“Triple Integrals”**, has been organised by the Department of Mathematics, Dr. Ambedkar College, Deekshabhoomi, Nagpur **on 10<sup>th</sup> April 2021 at 2.00 PM**, through Google Meet.

**Google Meet link- [meet.google.com/utj-crua-kbw](https://meet.google.com/utj-crua-kbw)**

Topic: Guest Lecture on “Triple Integrals” by Dr. Mrs. Shilpa Samdurkar – Conducted by Department of Mathematics, Dr. Ambedkar College, Deekshabhoomi, Nagpur.

**Time: Apr 10, 2021 2:00 PM India** Join Google meet

All shall have to attend the lecture.

A handwritten signature in blue ink on a light-colored background. The signature is stylized and appears to read 'B. A. Mehere'.

Dr. Mrs. Bhumi Mehere

Prof. Mrs. S M Pawar

Head, Department of Mathematics

Dr. Jitesh Tripathi

Assistant Professor, Department of Mathematics

## **Report:**

Department of Mathematics, Dr. Ambedkar College, Deekshabhoomi, Nagpur had organized a Guest Lecture on “Triple Integrals” for B.Sc. students of Second Semester, of all the streams on 10<sup>th</sup> April 2021. Dr. Shilpa Samdurkar, Head, Department of Mathematics, Vidya Vikas Arts Commerce and Science College, Samudrapur, delivered the guest lecture on “Triple Integrals”.

In her lecture, she highlighted the applications of triple integrals. She also discussed about the dedication with which he worked towards achieving greatness in the various applications of Triple integrals in real life problems, provided with a lot of motivation to our students. She also discussed some problems and theorems on the topic. The lecture was appreciated by the student for her efforts. Dr Jitesh Tripathi conducted the program and vote of thanks was given by Prof. S. M. Pawar.

# Photographs:

Shilpa Samdurkar is presenting

2:08 PM

### TYPES OF INTEGRALS

THERE ARE BASICALLY TWO TYPES OF INTEGRALS,  
DEFINITE AND INDEFINITE.

- Definite integral is defined as the integral which contains definite limits, i.e., upper limit and lower limit. It is also named as Riemannian Integral
- Indefinite integral is defined as the integral whose, upper limit and lower limit are not defined

$$\int_a^b f(x) dx$$

definite

$$\int f(x) dx = F(x) + C$$

indefinite

Meeting details

Turn on captions

Shilpa Samdurkar is presenting

2:08 PM 4/10/2021

Participants: Divyani Irpachi, Nikita Pund, KHUSHI DIWANE, Anirudh A, Ayush Shrivastkar, Ayesha Khan, Akshay Harde, Nisha Khankure, Swati Patle

Shilpa Samdurkar is presenting

2:12 PM

### SYMBOLICALLY

it is denoted by

$$\iiint_S f(x, y, z) dV = \iiint f(x, y, z) dx dy dz$$

Meeting details

Turn on captions

Shilpa Samdurkar is presenting

2:12 PM 4/10/2021

Participants: Divyani Irpachi, Chetna Nerkar, KHUSHI DIWANE, Anirudh A, Ayush Shrivastkar, Ayesha Khan, Akshay Harde, Palash Meshram, Swati Patle

WhatsApp Meet - uij-crua-kbw

Shilpa Samdurkar is presenting

### HOW TO EVALUATE

(a) When the limits are constants:  
First integrate the function w.r. to that variable whose differential appears first.

(b) When limits are constants and the limits are in a variable separable form i.e.

$$\int_{x=a}^{x=b} X(x) dx \int_{y=c}^{y=d} Y(y) dy \int_{z=l}^{z=m} Z(z) dz$$

Meeting details

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Shilpa Samdurkar is presenting

Abhishek Yadav and 22 more 2:16 PM

Ex 2) Evaluate  $\int_0^1 \int_0^1 \int_0^1 e^{x+y+z} dx dy dz$

Sol: Let  $I = \int_0^1 \int_0^1 \int_0^1 e^{x+y+z} dx dy dz$

$$= \int_0^1 \int_0^1 [e^{x+y+z}]_0^1 dy dz$$

$$= \int_0^1 \int_0^1 [e^{1+y+z} - e^{y+z}] dy dz$$

$$= \int_0^1 \left\{ [e^{1+y+z} - e^{y+z}]_0^1 \right\} dz$$

$$= \int_0^1 \left\{ [e^{1+y+z} - e^{y+z}]_0^1 \right\} dz$$

Meeting details

Turn on captions Shilpa Samdurkar is presenting

2:16 PM 4/10/2021

Shilpa Samdurkar is presenting

Siya Mishra and 21 more 2:17 PM

$$= \int_0^1 [e^{2+z} - e^{1+z} - e^{1+z} + e^z] dz$$

$$= [e^{2+z} - 2e^{1+z} + e^z]_0^1$$

$$= [e^3 - 2e^2 + e^1 - e^2 + 2e - 1]$$

$$= [e^3 - 3e^2 + 3e^1 - 1]$$

$$= (e-1)^3$$

Which is required answer.

Meeting details

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2:17 PM 4/10/2021

Meet - uj-crua-kbw

https://meet.google.com/uj-crua-kbw

2:23 PM

Siya Mishra and 21 more

Shilpa Sandurkar

Diyaani Irapachi

KHUSHI DIWANE

Swati Patle

Ayush Shrivaskar

Chetna Nerkar

Ayesha Khan

Palash Meshram

Nikita Pund

Meeting details

Turn on captions Present now

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2:23 PM 4/19/2021