

Rayat Shikshan Sanstha's, Satara
KARMAVEER BHAURAO PATIL COLLEGE VASHI,
[AUTONOMOUS]
NATIONAL WORKSHOP ON NET/SET IN MATHEMATICAL SCIENCES

Under the Aegis of

RASHTRIYA UCHCHATAR SHIKSHA ABHIYAN
Organised by
DEPARTMENT OF MATHEMATICS

BROCHURE



Rayat Shikshan Sanstha's
**KARMAVEER BHAURAO PATIL COLLEGE VASHI,
NAVI MUMBAI**
[AUTONOMOUS]

DEPARTMENT OF MATHEMATICS
Organise

NATIONAL WORKSHOP
ON
NET/SET
IN
MATHEMATICAL SCIENCES

UNDER THE AEGIS OF

RUSA

1ST -2ND MARCH 2021

Objectives of the Workshop

1. To motivate students to opt for NET/SET exams.
2. To qualify GATE/ PET for higher studies.
3. To upgrade the knowledge in Mathematics.

Workshop focused on

Different branches of Mathematics such as Analysis, Linear Algebra, Topology, Complex Analysis and Differential Equations etc. related to NET/SET exam.

Who can apply?

Anyone who wish to appear NET/SET/GATE exam in Mathematical Sciences.

Registration

- Registration is free
- For registration click on this link:
<https://forms.gle/yzMJrT71PZ1CTmoVA>

Important Instructions:

1. It is mandatory to attend all the sessions. The link of feedback form will be provided in chat box during the session.
2. The workshop will be held on "Google Meet", ID and password will be provided before an hour of the workshop.
3. The participants should join the Telegram group <https://t.me/joinchat/InkiyBRKlw-JKtpB> to know the latest information about the workshop.

Workshop Platform : Google Meet

link for Morning Session 10.00 TO 12.00

<https://meet.google.com/uyg-kwyq-psi>

For Afternoon Session 02.00 TO 04.00

<https://meet.google.com/yvz-wcah-cra>

SCHEDULE OF THE WORKSHOP:

SN	DATE	TIME	RESOURCE PERSON	TOPIC
1.	01/03/2021	09.00-12.00	MR. PARSHURAM MANE	LINEAR ALGEBRA
2.	01/03/2021	02.00-05.00	MR. RAHUL MAPARI	COMPLEX ANALYSIS
3.	02/03/2021	09.00-12.00	MR. RAHUL MAPARI	REAL ANALYSIS
4.	02/03/2021	02.00-05.00	MR. MAHESH JARE	MODERN ALGEBRA

RESOURCE PERSONS:

1. Mr. Parshuram Mane, NET(2018 with rank 37)/SET/GATE
Assistant Professor, S.G.M. College, Karad.
2. Mr. Mahesh Jare, NET(2020)
Assistant Professor, S.G.M. College, Karad.
3. Mr. Rahul Mapari, NET/SET/GATE
Assistant Professor, Government Vidarbha Institute of Science & Humanities, Amaravati.

Dr. Shubhada Nayak
I/C Principal,
Karmaveer Bhaurao Patil College Vashi, Navi Mumbai.

Dr. G. A. Dhanorkar
Coordinator & Head, Department of Mathematics

Mr. N. B. Nalawade
Convener
(nalawade@kbpcollegevashi.edu.in , 9730372457)

Organising Committee:

Mr. S. G. Jakkewad(8329767219)
Mr. D.J. Bhosale(9702860040)
Ms. S.A. Phadtare
Ms.S. Revathy

REPORT

The workshop was inaugurated by our honourable Coordinator and Head of the department, Dr. G. A. Dhanorkar in the presence of convener Mr. N. B. Nalawade and other faculty members of the department and teacher and student participants.

The inaugural function started with the welcome speech and introductory speech about the Workshop by Ms. S. Revathy. Head of the Department, Dr. G. A. Dhanorkar, briefed about our institute and extended a warm welcome to all the resource persons, Mr. Ram Mane, Assistant Professor, S.G.M. College, Karad, Mr. Rahul Mapari, Assistant Professor, Govt. Vidarbha Institute of Science and Humanities, Amaravati and Mr. Mahesh Jare, Assistant Professor, S.G.M. College, Karad. He also welcomed Dr. Shubhada Nayak, Principal, Karmaveer Bhaurao Patil College, Vashi. (Autonomous) and the participants to the two day's National workshop and briefed about the importance of NET/SET Exam in Higher Education.

The First session on Linear algebra was delivered by Mr. Ram Mane. He delivered concepts of Linear algebra and its applicable examples, and also explained how the subjects are important to get marks in exams. He covered many examples related to NET/SET exam. The Second session on Complex Analysis was delivered by Mr. Rahul Mapari. In his session he briefed about various examples pertaining to the study of NET/SET examinations. He further explained in detail the concepts of Complex Analysis.

Third session on Real Analysis was delivered by Mr. Rahul Mapari. Participants received a question solving approach in real. Participants learned various tricks and concepts in Real Analysis.

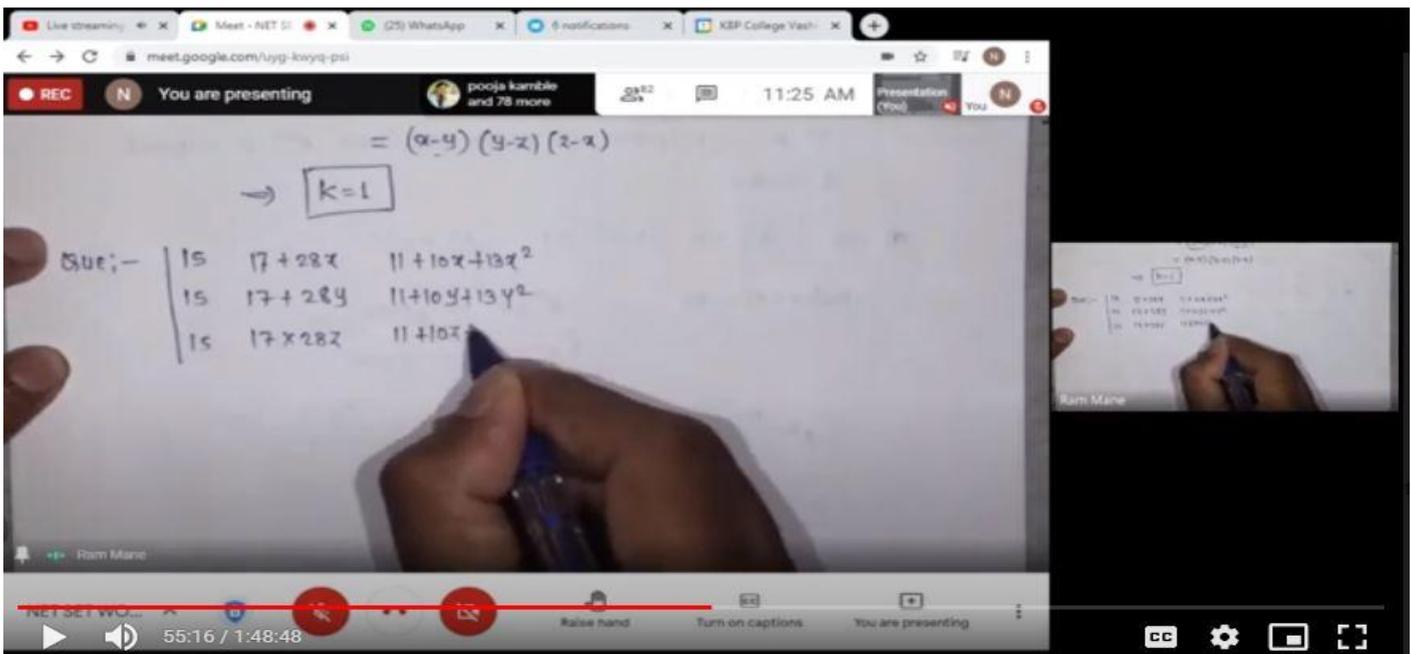
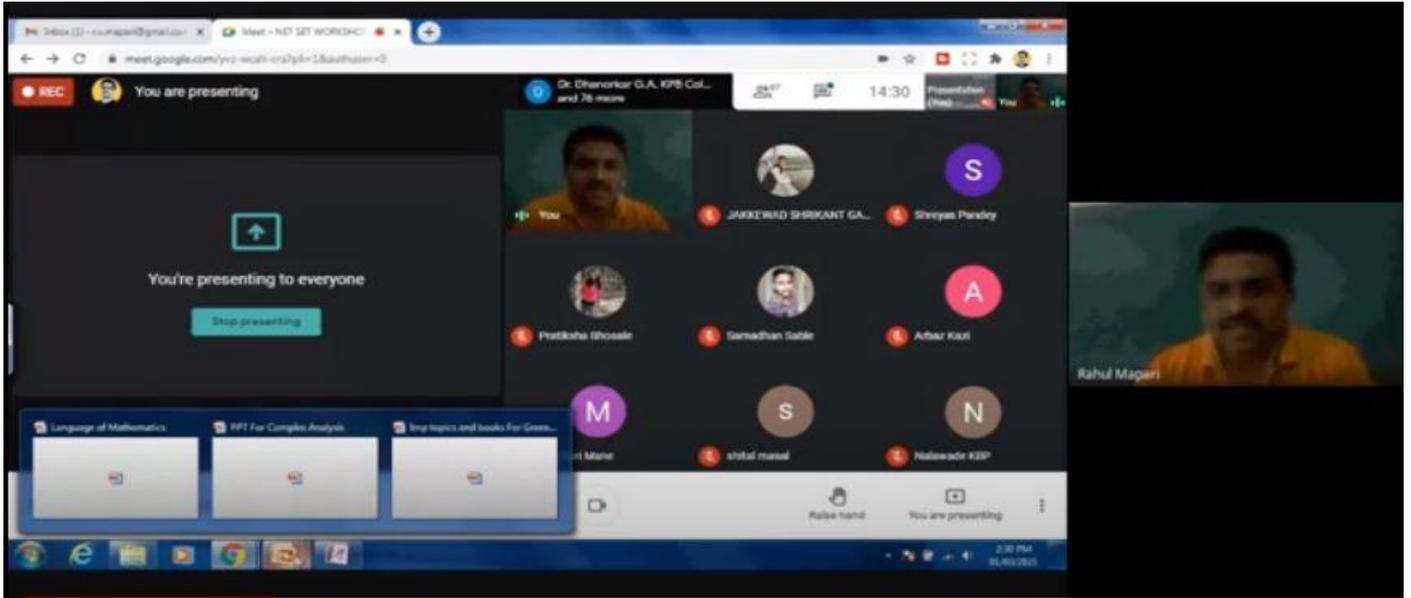
Fourth session on Modern Algebra was delivered by Mr. Mahesh Jare sir. He explained how Euler's function is useful to find the number of elements of orders in various groups. He gave examples of the Sylow theorem and its applications.

At the end of each Session, the clarifications and queries of the participants regarding various aspects of the NET/SET Examination were addressed by the Resource Persons.

Concluding Remarks and Vote of Thanks was delivered by Mr. N. B. Nalawade.

Dr.G.A.Dhanorkar
HoD, Mathematics.

PHOTOS



let u be the real part of f and v the imaginary part of f . Then, for $x, y \in \mathbb{R}$, $|f'(x+iy)|^2$ is equal to

1. $u_x^2 + v_x^2$
2. $u_x^2 + v_y^2$
3. $v_x^2 + u_x^2$
4. $v_y^2 + u_y^2$

1. (B) Let f be an entire function. If $\operatorname{Re} f$ is bounded then

- a) $\operatorname{Im} f$ is constant.
- b) f is constant.
- c) $f = 0$.
- d) f is a non zero constant.

Let f be a holomorphic function in the open unit disc such that $\lim_{z \rightarrow 1} f(z)$ does not exist. Let $\sum_{n=0}^{\infty} a_n z^n$ be the Taylor series of f about $z = 0$ and let R be its radius of convergence.

$|f'(z)|^2 = ?$

$$f'(z) = u_x + i v_x$$

$$|f'(z)|^2 = u_x^2 + v_x^2$$

$$u_x = v_y \quad u_y = -v_x$$

$$= v_y^2 + v_x^2$$

$$= v_y^2 + u_y^2$$


Rahul Mapani

meet.google.com/uyg-kvyq-psi

REC You are presenting Nithya M and 95 more 10:37 AM Presentation (You)

$= A^T B^T$

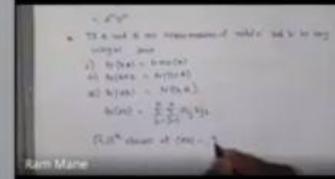
* If A and B are square matrices of order n and k be any integer then

- 1) $\operatorname{tr}(kA) = k \operatorname{tr}(A)$
- 2) $\operatorname{tr}(A+B) = \operatorname{tr}(B+A)$
- 3) $\operatorname{tr}(AB) = \operatorname{tr}(BA)$

$$\operatorname{tr}(AB) = \sum_{i=1}^n \sum_{j=1}^n a_{ij} b_{ji}$$

$(i, i)^{\text{th}}$ element of $(AB) =$

Play (k) 7:08 / 1:48:48



Ram Mani