# Bridge Course by the Department of Mathematics (2021-2022)

The department of PG Studies and Research in Mathematics has conducted bridge course classes for the MSc Mathematics students on a weekly basis in the academic year 2021-22. The objective of these sessions were to make the foundational concepts in Mathematics strong among the students so that they are ready to solve the problems asked in competitive exams such as KSET/NET/GATE and other entrance exams to public services. The students were divided into small groups and tasks such as assignments, seminars and seminars and tests were conducted.

CLASS / (2020-22) - Semester I

Date: 06/10/2021

BRIDGE COURSE

1) Saniya Anjum (198022)
Topic: Ordered sets, fields, the Real field.

2) K.A. Deeksha (208003)
Topic: Countable and Uncountable sets
Compact Sets

3) Mufliha (208007)
Topic: Convergent sequences
Subsequences
Upper and lower limits

4) Shastina Sunny (208012)
Topic: the Root and Ratio tests
Power Series
The Number e

5) Manepalli Kanchana (208018)
Topic: The Derivative of a Real function
Mean Value theorem
The Continuity of Derivatives.

BRIDGE COURSE / REMEDIAL CLASS (2020 - 2022) (Semester II) 2021

-) Saniya Anjum – Topology, Product topology, connected and compact spaces

) Chriswin Prem Vas – local connectedness, local compactness, Urysohn lemma

) K. A. Ruksha – Product topology, compactness, limit point compactness

) Rishma Thomas – Order topology, Product topology, limit point compactness, local compactness.

) Shreya – Connected spaces, local connectedness, local compactness, Titze extension theorem

Allen George – Topology, Order topology, normal spaces, countability axioms

Huda Zainaba Basheer – Connected spaces, compact spaces, separation axioms.

CLASS (2020-22) – Semester II
BRIDGE COURSE
Date: 15/6/2022

1) Saniya Anjum (198022)
Topic: Suppose 'A' is atmost countable and for every $\alpha \in A$, $B_\alpha$ is countable.
Then $\bigcup_{\alpha \in A} B_\alpha$ is atmost countable.

2) Reshma Thomas (208010)
Topic: The set of all rational numbers is countable

3) Suresh B (208016)
Topic: Let 'A' be countable set and let '$B_n$' denote the set $\{(a_1, a_2, \ldots a_n) ; a_k \in A\}$ for all $k$, $1 \le k \le n$. Then show that $B_n$ is countable.

4) Sumitha (208019)
Topic: Let $\{p_n\}$ be a sequence in a metric space X. $\{p_n\}$ converges to $p \in X$ if and only if every neighbourd of p contains all but finitly many terms of $\{p_n\}$

5) Huda Zainaba Basheer (208022)
Topic: Every infinite subset of a countable set 'A' is countable.

6) Fathima Waseela (208021)
Topic: If E is an infinite subset of a compact set K, then E has a limit point in K.