

## CERTIFICATE

This is to certify that this dissertation entitled "A STUDY ON SOFT  $G\beta$  AND  $G_{s\beta}$ -CLOSED SETS IN SOFT TOPOLOGICAL SPACES" submitted to Kongunadu Arts and Science College (Autonomous), affiliated to the Bharathiar University, in partial fulfillment of the requirements for the award of the Degree of **Master of Science in Mathematics**, is a record of original work done by MS. V. DHANYA during the period 2018 - 2019 of her study in the Department of Mathematics (UA), Kongunadu Arts and Science College (Autonomous), Coimbatore, under my supervision and the dissertation has not formed the basis for the award of any Degree/ Diploma/ Associate ship/ Fellowship or other similar title to any candidate of any University.

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# CERTIFICATE

This is to certify that this dissertation entitled "LINEAR DIFFERENTIAL EQUATIONS OF HIGHER ORDER" submitted to Kongunadu Arts and Science College (Autonomous), affiliated to the Bharathiar University, in partial fulfillment of the requirements for the award of the Degree of Master of Science in Mathematics, is a record of original work done by R. BALAMURUGAN during the period 2018-2019 of his study in the Department of Mathematics(UA), Kongunadu Arts and Science College (Autonomous), Coimbatore, under my supervision and the dissertation has not formed the basis for the award of any Degree Diploma/ Associate ship/ Fellowship or other similar title to any candidate of any University.

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## CERTIFICATE

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## CERTIFICATE

This is to certify that this dissertation entitled " $\beta^*g\alpha$  - CLOSED SET IN GENERAL TOPOLOGICAL SPACES AND  $\beta$  - OPEN SET IN SOFT TOPOLOGICAL SPACES" submitted to Kongunadu Arts and Science College (Autonomous), affiliated to the Bharathiar University, in partial fulfillment of the requirements for the award of the Degree of Master of Science in Mathematics, is a record of original work done by EASUPRIYA P during the period 2018 - 2019 of her study in the Department of Mathematics (UA), Kongunadu Arts and Science College (Autonomous), Coimbatore, under my supervision and the dissertation has not formed the basis for the award of any Degree/ Diploma/ Associate ship/ Fellowship or other similar title to any candidate of any University.

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# CERTIFICATE

This is to certify that this dissertation entitled "A STUDY ON INTUITIONISTICS SUPRA SEMI-CLOSED SET IN INTUITIONISTICS SUPRA TOPOLOGICAL SPACES" submitted to KONGUNADU ARTS AND SCIENCE COLLEGE (Autonomous), affiliated to the Bharathiar University, in partial fulfilment of the requirements for the award of the Degree of Master of Science in Mathematics, is a record of original work done by **Mr. G. ELANGO VAN** during the period 2018 - 2019 of his study in the Department of Mathematics(UA), Kongunadu Arts and Science College (Autonomous), Coimbatore, under my supervision and the dissertation has not formed the basis for the award of any Degree / Diploma / Associate ship / Fellowship or other similar title to any candidate of any University.

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## CERTIFICATE

This is to certify that this dissertation entitled "A STUDY ON NANO  $\alpha\omega$ -CLOSED SETS IN NANO TOPOLOGICAL SPACES" submitted to Kongunadu Arts and Science College (Autonomous), affiliated to the Bharathiar University, in partial fulfillment of the requirements for the award of the Degree of Master of Science in Mathematics, is a record of original work done by S. GABRIEL RAJA (Reg.No.: 172AM004) during the period 2018 - 2019 of his study in the Department of Mathematics (UA), Kongunadu Arts and Science College (Autonomous), Coimbatore, under my supervision and the dissertation has not formed the basis for the award of any Degree/ Diploma/ Associateship/ Fellowship/ or other similar title to any candidate of any University.

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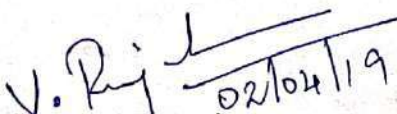
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# CERTIFICATE

This is to certify that this dissertation entitled "**A STUDY ON APPLICATIONS OF  $**g\alpha$ -CLOSED SETS IN TOPOLOGICAL SPACES**" submitted to **Kongunadu Arts and Science College (Autonomous)**, affiliated to the **Bharathiar University**, in partial fulfillment of the requirements for the award of the Degree of **Master of Science in Mathematics**, is a record of review work done by **GOWTHAM.T** during the period 2018 - 2019 of his study in the **Department of Mathematics(UA)**, Kongunadu Arts and Science College (Autonomous), Coimbatore, under my supervision and the dissertation has not formed the basis for the award of any Degree/ Diploma/ Associate ship/ Fellowship/ or other similar title to any candidate of any University.

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## CERTIFICATE

This is to certify that this dissertation entitled "A STUDY ON OPEN NEIGHBOURHOOD COLORING OF PRISM GRAPH FAMILIES" submitted to Kongunadu Arts and Science College (Autonomous), affiliated to the Bharathiar University, in partial fulfillment of the requirements for the award of the Degree of Master of Science in Mathematics, is a record of original work done by A. K. HARSHINI (Reg.No.:172AM018) during the period 2018 - 2019 of his study in the Department of Mathematics (UA), Kongunadu Arts and Science College (Autonomous), Coimbatore, under my supervision and the dissertation has not formed the basis for the award of any Degree/ Diploma/ Associateship/ Fellowship/ or other similar title to any candidate of any University.

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This is to certify that this dissertation entitled "A STUDY ON OPEN NEIGHBORHOOD COLORING OF BISTAR GRAPH" submitted to Kongunadu Arts and Science College (Autonomous), affiliated to the Bharathiar University, in partial fulfillment of the requirements for the award of the Degree of **Master of Science in Mathematics**, is a record of original work done by **JANARTHANAM. S** during the period 2018 - 2019 of his study in the **Department of Mathematics(UA)**, Kongunadu Arts and Science College (Autonomous), Coimbatore, under my supervision and the dissertation has not formed the basis for the award of any Degree/ Diploma/ Associateship/ Fellowship/ or other similar title to any candidate of any University.

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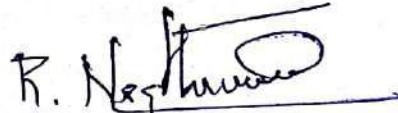


# CERTIFICATE

This is to certify that this dissertation entitled "A STUDY ON OPEN NEIGHBOURHOOD COLORING OF FAN GRAPH FAMILIES" submitted to Kongunadu Arts and Science College (Autonomous), affiliated to the Bharathiar University, in partial fulfillment of the requirements for the award of the Degree of Master of Science in Mathematics, is a record of original work done by JAYASHRI J during the period 2018-2019 of her study in the Department of Mathematics (UA), Kongunadu Arts and Science College (Autonomous), Coimbatore, under my supervision and the dissertation has not formed the basis for the award of any Degree/Diploma/Associate ship/Fellowship or other similar title to any candidate of any University.

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# CERTIFICATE

This is to certify that this dissertation entitled "A STUDY ON INTUITIONISTIC SUPRA  $\alpha$ -CLOSED SET IN INTUITIONISTIC SUPRA TOPOLOGICAL SPACE" submitted to Kongunadu Arts and Science College (Autonomous), affiliated to the Bharathiar University, in partial fulfillment of the requirements for the award of the Degree of Master of Science in Mathematics, is a record of original work done by MARIA SELVAM. I during the period 2018–2019 of his study in the Department of Mathematics (UA), Kongunadu Arts and Science College (Autonomous), Coimbatore, under my supervision and the dissertation has not formed the basis for the award of any Degree Diploma/ Associate ship/ Fellowship or other similar title to any candidate of any University.

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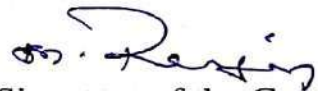
## CERTIFICATE

This is to certify that this dissertation entitled "A STUDY ON  $N\beta gw$ -CLOSED SETS IN NANO TOPOLOGICAL SPACES" submitted to **Kongunadu Arts and Science College** (Autonomous), affiliated to the Bharathiar University, in partial fulfillment of the requirements for the award of the Degree of **Master of Science in Mathematics**, is a record of original work done by **M. PAVITHRAN** (Reg.No.:172AM-020) during the period 2018 - 2019 of his study in the **Department of Mathematics** (UA), Kongunadu Arts and Science College (Autonomous), Coimbatore, under my supervision and the dissertation has not formed the basis for the award of any Degree/ Diploma/ Associateship/ Fellowship/ or other similar title to any candidate of any University.

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## CERTIFICATE

This is to certify that this dissertation entitled "**A STUDY ON  $\aleph_0$ -CLOSED SETS IN NANO TOPOLOGICAL SPACES**" submitted to **Kongunadu Arts and Science College** (Autonomous), affiliated to the Bharathiar University, in partial fulfillment of the requirements for the award of the Degree of **Master of Science in Mathematics**, is a record of original work done by **K. S. RAMYA** (Reg.No.:172AM015) during the period 2018 - 2019 of his study in the **Department of Mathematics (UA)**, Kongunadu Arts and Science College (Autonomous), Coimbatore, under my supervision and the dissertation has not formed the basis for the award of any Degree/ Diploma/ Associateship/ Fellowship/ or other similar title to any candidate of any University.

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## CERTIFICATE

This is to certify that this dissertation entitled "A STUDY ON OPEN NEIGHBOURHOOD COLORING IN STAR GRAPH" submitted to Kongunadu Arts and Science College (Autonomous), affiliated to the Bharathiar University, in partial fulfilment of the requirements for the award of the Degree of Master of Science in Mathematics, is a record of review work done by P. RANJANI during the period 2018–2019 of her study in the Department of Mathematics(UA), Kongunadu Arts and Science College (Autonomous), Coimbatore, under my supervision and the dissertation has not formed the basis for the award of any Degree Diploma/ Associate ship/ Fellowship or other similar title to any candidate of any University.

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# CERTIFICATE

This is to certify that this dissertation entitled "A STUDY ON SUPRA  $b$ -OPEN AND  $*bg$ -CLOSED SET IN SUPRA TOPOLOGICAL SPACES" submitted to Kongunadu Arts and Science College (Autonomous), affiliated to the Bharathiar University, in partial fulfillment of the requirements for the award of the Degree of Master of Science in Mathematics, is a record of original work done by RATHINA PRABHA C during the period 2018–2019 of her study in the Department of Mathematics (UA), Kongunadu Arts and Science College (Autonomous), Coimbatore, under my supervision and the dissertation has not formed the basis for the award of any Degree Diploma/ Associate ship/ Fellowship or other similar title to any candidate of any University.

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## CERTIFICATE

This is to certify that this dissertation entitled "A BROAD FIELD OF STUDY ON CRYPTOGRAPHY AND ITS APPLICATIONS" submitted to Kongunadu Arts and Science College (Autonomous), affiliated to the Bharathiar University, in partial fulfilment of the requirements for the award of the Degree of Master of Science in Mathematics, is a record of original work done by M. SANCHANA during the period 2018-2019 of her study in the Department of Mathematics(UA), Kongunadu Arts and Science College (Autonomous), Coimbatore, under my supervision and the dissertation has not formed the basis for the award of any Degree Diploma/ Associate ship/ Fellowship or other similar title to any candidate of any University.

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This is to certify that this dissertation entitled "A STUDY ON BOUNDARY VALUE PROBLEMS" submitted to Kongunadu Arts and Science College (Autonomous), affiliated to the Bharathiar University, in partial fulfilment of the requirements for the award of the Degree of Master of Science in Mathematics, is a record of original work done by SARANYA GURUNATHAN during the period 2018-2019 of her study in the Department of Mathematics(UA), Kongunadu Arts and Science College (Autonomous), Coimbatore, under my supervision and the dissertation has not formed the basis for the award of any Degree Diploma/ Associate ship/ Fellowship or other similar title to any candidate of any University.

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This is to certify that this dissertation entitled "A STUDY ON ACHROMATIC COLORING FOR BARBELL GRAPH" submitted to Kongunadu Arts and Science College (Autonomous), affiliated to the Bharathiar University, in partial fulfillment of the requirements for the award of the Degree of Master of Science in Mathematics, is a record of original work done by SHARAN R during the period 2018–2019 of his study in the Department of Mathematics (UA), Kongunadu Arts and Science College (Autonomous), Coimbatore, under my supervision and the dissertation has not formed the basis for the award of any Degree Diploma/ Associate ship/ Fellowship or other similar title to any candidate of any University.

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## CERTIFICATE

This is to certify that this dissertation entitled " $gr^*$ -Closed sets and  $gr^*$ -Continuous functions" submitted to Kongunadu Arts and Science College (Autonomous), affiliated to the Bharathiar University, in partial fulfilment of the requirements for the award of the Degree of Master of Science in Mathematics, is a record of original work done by Sumithra.K during the period 2018–2019 of her study in the Department of Mathematics(UA), Kongunadu Arts and Science College (Autonomous), Coimbatore, under my supervision and the dissertation has not formed the basis for the award of any Degree Diploma/ Associate ship/ Fellowship or other similar title to any candidate of any University.

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This is to certify that this dissertation entitled "A STUDY ON SUPRA  $g$ -CLOSED SET AND SUPRA  $g^*b$  CLOSED SET IN SUPRA TOPOLOGICAL SPACES" submitted to Kongunadu Arts and Science College (Autonomous), affiliated to the Bharathiar University, in partial fulfilment of the requirements for the award of the Degree of Master of Science in Mathematics, is a record of original work done by SUWETHA R during the period 2018–2019 of her study in the Department of Mathematics(UA), Kongunadu Arts and Science College (Autonomous), Coimbatore, under my supervision and the dissertation has not formed the basis for the award of any Degree Diploma/ Associate ship/ Fellowship or other similar title to any candidate of any University.

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This is to certify that this dissertation entitled " $P^*g\alpha$ -CLOSED SET IN GENERAL TOPOLOGICAL SPACES AND  $\alpha$ -OPEN IN SOFT TOPOLOGICAL SPACES" submitted to Kongunadu Arts and Science College (Autonomous), affiliated to the Bharathiar University, in partial fulfillment of the requirements for the award of the Degree of Master of Science in Mathematics, is a record of original work done by S. VIJAYA (Reg.No.:172AM024) during the period 2018 - 2019 of her study in the Department of Mathematics (UA), Kongunadu Arts and Science College (Autonomous), Coimbatore, under my supervision and the dissertation has not formed the basis for the award of any Degree/ Diploma/ Associateship/ Fellowship/ or other similar title to any candidate of any University.

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