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This is to certify that the thesis/dissertation entitled "THERMAL ANALYSIS OF REFRIGERATION SYSTEM BY USING NANO REFRIGERANTS" is being submitted by Miss. NUKELLA GANGA SRI RAMA LAKSHMI bearing Regd. No. 14P31D2107 in partial fulfilment for the award of MASTER OF TECHNOLOGY in THERMAL ENGINEERING to the Jawaharlal Nehru Technological University Kakinada is a record of bonafide work carried out by him/her under our guidance and supervision.

The results embodied in this thesis have not been submitted to any other University or Institute for the award of any degree or diploma.

Signature of the Internal Supervisor Mr. K. VIJAY, Asst. prof. Department of Mechanical Engineering, Aditya College of Engg. & Tech, Surampalem

Signature of Head of the Department Mr H. SURESH BABU RAO, Assoc. Prof. Department of Mechanical Engineering, Aditya College of Engg. & Tech, Surampalem

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This is to certify that the thesis/dissertation entitled DESIGN AND CFD ANALYSIS ON COATED STEAM TURBINE BLADE is being submitted by Mr. BATHINEEDI NAGABABU bearing Regd...No 15P31D2101 in partial fulfilment for the award of MASTER OF TECHNOLOGY in THERMAL ENGINEERING to the Jawaharlal Nehru Technological University Kakinada is a record of bonafide work carried out by him/her under our guidance and supervision.

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Signature of the Internal Supervisor Mr V SIVA NAGI REDDY, Asst. prof Department of Mechanical Engineering, Aditya College of Engg. & Tech, Surampalem. Signature of Head of the Department Mr H.SURESH BABURAO, Assoc. Prof Department of Mechanical Engineering, Aditya College of Engg. & Tech,

Surampalem

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J. Rajanched

Signature of the Internal Supervisor Mr J. RAJASHEKAR, Asst Prof Department of Mechanical Engineering, Aditya College of Engg.& Tech, Surampalem.

Signature of Head of the Department Mr H. SURESH BABURAO, Assoc Prof Department of Mechanical Engineering, Aditya College of Engg. & Tech, Surampalem



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This is to certify that the thesis/dissertation entitled "EXPERIMENTAL INVESTIGATION ON ENGINE PERFORMANCE AND EMISSION ANALYSIS OF DIESEL ENGINE OPERATING ON CALOPHYLLUM INOPHYLLUM OIL BIODIESEL BLENDS BY USING Al2O3 NANOPARTICLES WITH EGR" is being submitted by Miss. KYLASH SUJATHA bearing Regd.No 16P31D2103 in partial fulfillment for the award of MASTER OF TECHNOLOGY in THERMAL ENGINEERING to the Jawaharlal Nehru Technological University Kakinada is a record of bonafide work carried out by him/her under our guidance and supervision.

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Signature of the Internal Supervisor

Mr. H.SURESH BABU RAO Associate Professor

Dept. of Mechanical Engineering Aditya College of Engg. & Tech.

Signature of Head of the Department

Mr. H.SURESH BABU RAO **Associate Professor**

Dept. of Mechanical Engineering Aditya College of Engg. & Tech

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1 AS 10 Re Signature of the Internal Supervisor Mr. T S S BHASKARA RAO, Asst prof Department of Mechanical Engineering, Aditya College of Engg. & Tech, Surampalem.

Signature of Head of the Department Mr. H.SURESH BABURAO, Assoc Prof Department of Mechanical Engineering, Aditya College of Engg. & Tech, Surampalem.

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