

**DEPT. OF ELECTRONICS & COMMUNICATION ENGG**

**CERTIFICATE**

THIS IS TO CERTIFY THAT THE PROJECT ENTITLED

**HYBRID BEAMFORMING FOR 5G AND COGNITIVE RADIOS**

IS THE BONAFIDE WORK OF

**MARIAM  
(17251D3801)**

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF DEGREE OF  
MASTER OF TECHNOLOGY IN DIGITAL ELECTRONICS AND COMMUNICATION ENGINEERING  
DURING THE YEAR 2018-2019

*B. Venkateshulu*  
12/12/19

HEAD, ECE DEPARTMENT  
Dr. B. VENKATESHULU

*mad*

INTERNAL GUIDE  
Mrs. M MADHURILATHA  
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*S. Manappa 18/1/2020*

EXTERNAL EXAMINER