

CANDIDATE DECLARATION

We, **Kartikeya**, bearing the roll no 18134503008, **Shivam**, bearing roll no 18134501029, **Priyanka Chandra**, bearing roll no 18134501006 students of Computer Science and Engineering (CSE) at Hemvati Nandan Bahuguna Garhwal University (A Central University) , Srinagar (Garhwal), submit this project report entitled “**OMR MCQ Automated Grading**” to Dept. of Computer Science and Engineering, Hemvati Nandan Bahuguna Garhwal University, Srinagar (Garhwal) for the award of the Bachelors of Technology degree in Computer Science & Engineering and declaring that the work done is genuine and produced under the guidance of **Mr. Rohan Verma** ,dept. of Computer Science and Engineering, Hemvati Nandan Bahuguna Garhwal University, Srinagar (Garhwal), Uttarakhand. We further declare that the reported work in this project has not been submitted and will not be submitted, either in part or in full, for the award of any degree in this institute or any institute or university.

Kartikeya

Shivam

Priyanka Chandra

Roll no. 18134503008

Roll no. 18134501029

Roll no. 18134501006

DATE: 23rd July, 2022

PLACE: Srinagar (Garhwal)

Uttarakhand, 246174

CERTIFICATE

This is to certify that, this project report titled “**OMR MCQ Automated Grading**” submitted by Kartikeya (Roll no. 18134503008), Shivam (Roll no. 18134501029), Priyanka Chandra(Roll no.18134501006) are bonafide record of the work carried out by them in partial fulfilment for the requirement of the award of **Bachelor of Technology in Computer Science and Engineering** degree from Hemvati Nandan Bahuguna Garhwal University, Srinagar (Garhwal). This project report has not been submitted to any other University or Institution for the award of any degree.

Mr. Rohan Verma

Dept. of Computer Science & Engineering

Hemvati Nandan Bahuguna Garhwal University

ACKNOWLEDGEMENT

We would like to express my deepest gratitude to all people for sprinkling their help and kindness in the completion of this Project. we would like to start this moment by invoking our purest gratitude to **Mr. Rohan Verma**, Dept. of Computer Science and Engineering, Hemvati Nandan Bahuguna Garhwal University (A Central University) our project Instructor. The completion of this project could not have been possible without his expertise and invaluable guidance in every phase at Hemvati Nandan Bahuguna Garhwal University for helping us. And we would like to thank **Prof. M.M.S Rauthan, Prof. Y.P Raiwani Prof. M.P. Thapliyal, Associate Prof. Prem Nath, Assistant Prof. Pritam Singh Negi, Assistant Prof. Om Prakash, Assistant Prof. Vijay P. Bijlwan**, all the lab assistants and other staffs of Computer Science and Engineering department, Hemvati Nandan Bahuguna Garhwal University (A Central University) for their kind support. Last but not least, we would like to thank our parents and our friends for their unwavering belief throughout our journey.

TABLE OF CONTENT

S. No.	CHAPTER		Page Number
I	DECLARATION		i
II	CERTIFICATE		ii
III	ACKNOWLEDGEMENT		iii
1.	INTRODUCTION		1
	1.1	Abstract	1
	1.2	What Is OMR?	1
	1.3	What Is OMR MCQ Automated Grading	2
	1.4	Objective of The Study	3
	1.5	Advantages of OMR MCQ Automated Grading Model	4
2.	TECHNOLOGY USED		5
	2.1	Python	5
	2.2	Characteristics of Python	5
	2.3	Applications of Python	5
	2.4	Artificial Intelligence	5
	2.5	NumPy	11
	2.6	OpenCV	14
3.	METHODOLOGY		17
	3.1	Model Flowchart	19
4	PROJECT OVERVIEW		20
	4.1	Algorithms and Implementation	20
5	FEATURES		22
	5.1	Loading the Data	22
	5.2	Data Preprocessing	22
	5.3	Data Processing	22
	5.4	Edge Detection	23
6.	PROJECT MODULES		24

	6.1	OMR_Main.py	24
	6.2	Utilis.py	31
7	TESTING		36
	7.1	Testing Via System Store Images	36
	7.2	Testing Via Web cam	47
8.	PROJECT REQUIREMENTS		56
	8.1	Software Requirements	56
	8.2	Hardware Requirements	56
9.	CONCLUSION & FUTURE SCOPE		57
10.	REFERENCES		58

LIST OF FIGURES

S NO	FIGURE		PAG E
1	Fig 1.1	Types of Artificial Intelligence	5
	Fig 1.2	Applications of AI	7
2	Model Running Steps		17