

# Design and development of face shield for fighting with global pandemic COVID 19

Developed by

Centre for Advanced Studies

Dr. A.P.J. Abdul Kalam Technical University (AKTU) Lucknow

in joint collaboration with

Sanjay Gandhi Post Graduate Institute of Medical Science (SGPGIMS) Lucknow

To meet the new emerging challenges of the global pandemic COVID 19, Dr. A.P.J. Abdul Kalam Technical University (AKTU) Lucknow and Sanjay Gandhi Post Graduate Institute of medical science (SGPGIMS) Lucknow joins hands together under the leadership of Prof. Vinay Kumar Pathak, Vice chancellor AKTU and guidance of Prof. Manish Gaur, Director Centre for Advanced Studies AKTU. Dr. Anuj Kumar Sharma of Centre for Advanced Studies AKTU Lucknow and Dr. Ashish Kannaujia of SGPGIMS Lucknow have jointly developed the face shield. Four M.Tech students of Mechatronics first year, Mr. Avinash Bhaskar, Mr. Deepak Chandra Joshi, Mr. Nitin Singh and Mohd. Ilyas have been working under the guidance of Dr. Anuj Kumar Sharma for developing the face shield.



## Face Shield for medical staff

An innovative FACE SHEILD (shown in Figure-2) has been designed and developed in house at Centre for Advanced Studies, Dr. A.P.J. Abdul Kalam Technical University (AKTU) Lucknow for doctors, nurses and other paramedical staff. The face shield has also been modified as per the suggestions of SGPGIMS team. It is capable of protecting the spillage of contaminants coming from patients during sneezing and coughing of patients on medical staff's face, thus ensures primary safety. The transparent sheets used in design-2 are of better quality (as compared to design-1) and do not affect the visibility effect of medical staff. Few prototypes of face shields have been developed for testing and on-field trials and handed over to SGPGIMS Lucknow for on-field trials.



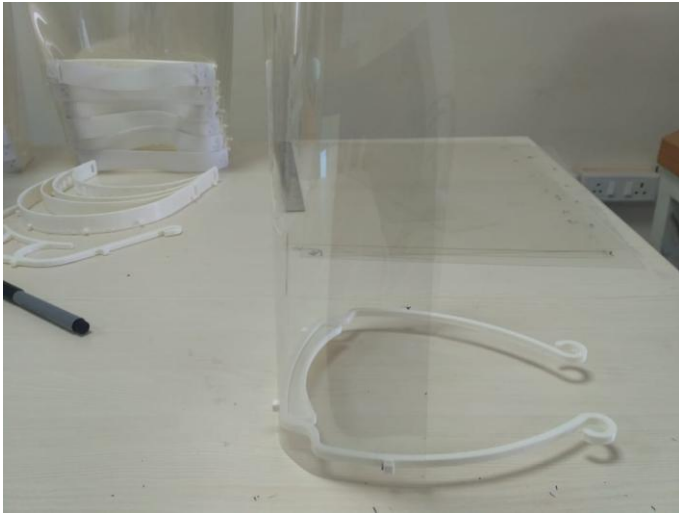
Figure-2 Face shield for medical staff

This design is designed for injection moulding process regarding its mass production at economical cost with faster rate.

However, a new model is also developed by keeping in mind the other method of manufacturing i.e. laser cutting method. This method is capable of fast and economical production of face shield. Using this method, the face shield can be manufactured at a very low price of approx Rs. 100 per piece.



**Newly developed face shield prototype to be manufactured using laser cutting process**



**Another design suitable for injection moulding process capable of mass production at economical and faster rate**