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Review on U-V Sterilizer Box

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ABSTRACT: Personal protective equipment including surgical masks and N95 mask, is crucially important to the safety of both patients and Doctor or Physician. In the period of infectious pandemics. As the incidence of Coronavirus Disease (COVID-19) is increasing exponentially in the United States and worldwide, healthcare provider demand for these necessities is currently outpacing supply. As such, strategies to safely expand the lifespan of the supply of medical equipment are critically important.

KEYWORDS:COVID-19, Mask, health care etc

I.INTRODUCTION

Due to the rapidly emergent nature of the novel Coronavirus Disease (COVID-19) and extream requirements of proper PPE protocol, many hospitals are running dangerously low on these protective devices. As a result, both patients and their healthcare providers are at increased risk of contacting and spreading COVID-19.As earlier suggested, one method of preserving our current supply of N95 filtering face-mask is through cycles of sterilize and reuse with ultraviolet germicidal irradiation.UV light is a form of electromagnetic radiation with more energy compare to visible light. It is necessary to use (PPE) for checking the spread of the disease. In developing countries like India, the disinfectin of PPE kits and other personal equipments is in high demand as the throwaway accessories require a huge amount of money. Further, the disposal of PPE kits and other routine items to the environment poses a serious commination.

II.LITERATURE REVIEW

1)For Occupational Safety, N. I. & Health. Niosh guide to the selection and use of particulate respirators certified under 42 cfr 84 (1996).
In June 1995, the National Institute for Occupational Safety and Health (NIOSH) updated and modernized the Federal regulation for certifying air-purifying particulate respirators. The respirators certified under this new regulation are tested under much more demanding conditions, and they provide increased worker protection. These new respirators also provide significant cost savings: Estimates indicate that the health care industry alone will save millions of dollars as a result of this new generation of practical and efficient respirators.

2)NuAire. Labgard es nu-540 series 1 class ii, type a2 biosafety cabinet, operation and maintance manual. (2014).
Personal protective equipment (PPE), including surgical masks and N95 respirators, is crucially important to the safety of both patients and medical personnel, particularly in the event of infectious pandemics. As the incidence of Coronavirus Disease (COVID-19) is increasing exponentially in the United States and worldwide, healthcare provider demand for these necessities is currently outpacing supply.

3)WorldHealthOrganization. Shortage of personal protective equipment endangering health workers worldwide (March 02, 2020).
Some hospitals have already begun using UV-C light to sterilize N95 respirators, but many lack the space or equipment to implement existing protocols. In this study, we outline a procedure by which N95 respirators may be sterilized using ultraviolet (UV) radiation in biosafety cabinets (BSCs), a common element of many academic, public health, and hospital laboratories

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III. SYSTEM DEVELOPMENT

Block diagram of project: A UV Sterilizer works by using special bulbs that can radiate the right amount of Ultra Violet light that is needed to kill bacteria on smooth surfaces. UV light is considered efficacious as it vandalize the DNA of bacteria and the DNA or RNA of viruses.

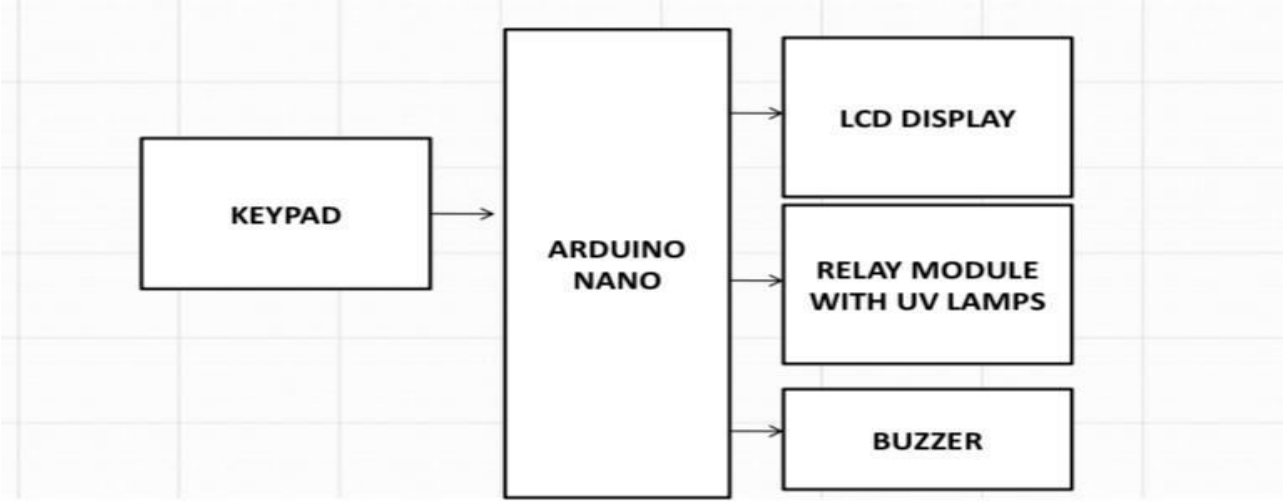


Fig.1 Block diagram

IV.RESULT

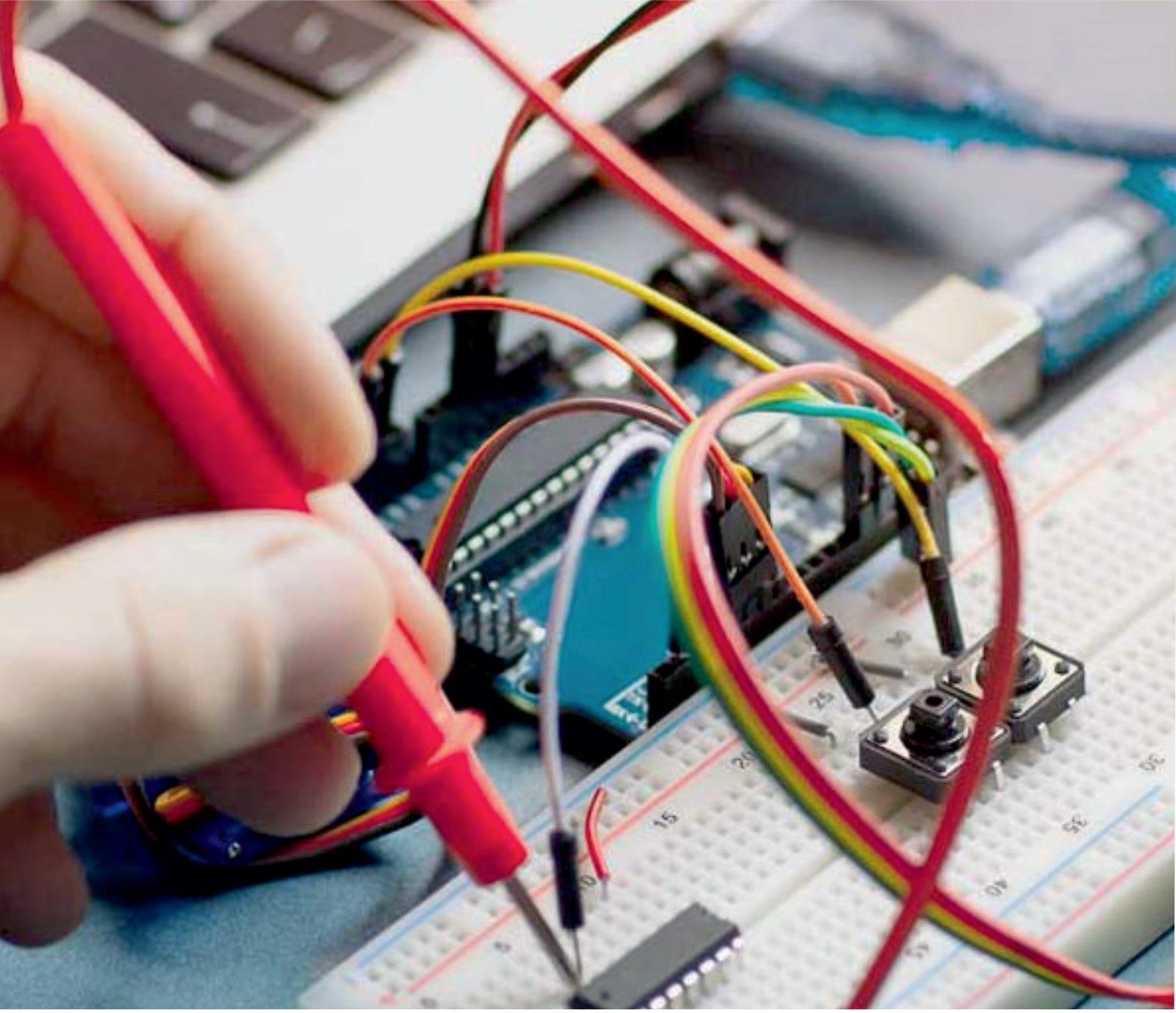
In this project, a less cost sterilization box is developed and the interdependent effect of UV and temperature over sanitization was inspected. For this purpose, the effect of UV and heat sanitization was performed, and its effect on glycoprotein and bacterial cells were notices. The comprehensive results are described in the upshot**.**

V.CONCLUSION

After making of this product we can easily disinfect the things which we use in our daily life and also reduses the spreading of novel corona virus.

REFERENCES

[1] For Occupational Safety, N. I. & Health. Niosh guide to the selection and use of particulate respirators certified under 42 cfr 84 (1996).
[2] Tseng, C.-C. & Li, C.-S. Inactivation of viruses on surfaces by ultraviolet germicidal irradiation. Journal of Occupational and Environmental Hygiene 4, 400–405 (2007).
[3] Mills, D., Harnish, D. A., Lawrence, C., Sandoval-Powers, M. &Heimbuch, B. K. Ultraviolet germicidal irradiation of influenza-contaminated n95 filtering facepiece respirators. American journal of infection control 46, e49–e55 (2018).
[4] Viscusi, D. J. e. a. Evaluation of five decontamination methods for filtering facepiece respirators. The Annals of Occupational Hygiene (2009).
[5] Fisher, E. M. & Shaffer, R. E. A method to determine the available uv-c dose for the decontamination of filtering facepiece respirators. Journal of applied microbiology 110, 287–295 (2011).
[6] Kowalski, W. Ultraviolet germicidal irradiation handbook: UVGI for air and surface disinfection (Springer science & business media, 2010)



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