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(54) Title of the invention : "Fire Safety System with Integrated Smoke Detection and Extraction Mechanism"

<p>(51) International classification :G08B0017100000, G08B0017107000, G08B0017113000, G08B0017120000, G08B0017110000</p> <p>(86) International Application No Filing Date :NA :NA</p> <p>(87) International Publication No : NA</p> <p>(61) Patent of Addition to Application Number Filing Date :NA :NA</p> <p>(62) Divisional to Application Number Filing Date :NA :NA</p>	<p>(71)Name of Applicant : 1)SWAMI VIVEKANANDA UNIVERSITY Address of Applicant :Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, West Bengal – 700121 Barasat ----- Name of Applicant : NA Address of Applicant : NA</p> <p>(72)Name of Inventor : 1)MR. SUMAN KUMAR GHOSH Address of Applicant :SWAMI VIVEKANANDA UNIVERSITY Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, West Bengal – 700121 Barasat ----- ----- 2)DR. SAMRAT BISWAS Address of Applicant :SWAMI VIVEKANANDA UNIVERSITY Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, West Bengal – 700121 Barasat ----- ----- 3)MR. SOUMYA GHOSH Address of Applicant :SWAMI VIVEKANANDA UNIVERSITY Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, West Bengal – 700121 Barasat ----- ----- 4)MR. SAYAN PAUL Address of Applicant :SWAMI VIVEKANANDA UNIVERSITY Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, West Bengal – 700121 Barasat ----- ----- 5)MR. ABHISHEK DHAR Address of Applicant :SWAMI VIVEKANANDA UNIVERSITY Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, West Bengal – 700121 Barasat ----- ----- 6)MR. SAURABH ADHIKARI Address of Applicant :SWAMI VIVEKANANDA UNIVERSITY Telinipara, Barasat - Barrackpore Rd, Bara Kanthalia, West Bengal – 700121 Barasat ----- -----</p>
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(57) Abstract :
The Fire Safety System with Integrated Smoke Detection and Extraction Mechanism is an advanced safety solution designed to enhance fire protection by combining smoke detection with smoke extraction capabilities. The system utilizes an Arduino UNO as the central processing unit, interfaced with a custom-designed smoke detector shield that includes an MQ2 smoke sensor for detecting smoke particles. Upon detecting elevated smoke levels, the system activates an audible buzzer, visual LED indicators, and a smoke extraction mechanism to remove smoke from the environment. The 16x2 LCD display provides real-time information on smoke levels and system status, while a potentiometer allows for customizable sensitivity adjustments. This integrated approach improves response times and overall safety in residential, commercial, and industrial settings by providing prompt alerts and proactive smoke management.

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