EVALUATION OF MICROBIAL AIR CONTAMINATION OF INDOOR ENVIRONMENT IN UITM KUALA PILAH

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ABSTRACT

EVALUATION OF MICROBIAL AIR CONTAMINATION OF INDOOR ENVIRONMENT IN UITM KUALA PILAH

Indoor air quality is one of crucial aspect that can affect human's health. The contamination of indoor air can occur due to the presence of bioaerosols. These microorganisms can become opportunistic pathogen if it exceeds the level of microorganisms allowed in indoor environment. This study was conducted using sedimentation method which exposed Tryptic Soy Agar (TSA) and Sabouraud Dextrose Agar (SDA) in Petri dishes to the indoor environment for 24 hours to obtain colony forming units. Qualitative analysis was carried out to characterize the microorganisms present by staining technique and a few biochemical tests. The results of this study showed that the plate counts for bacteria in lecture room 1, 2 and 3 is 107.16 CFU/m³, 62.40 CFU/m³ and 32.75 CFU/m³ respectively and for chemistry and biology laboratory is 1.82 CFU/m³ and 78.78 CFU/m³. The fungal counts in lecture room 1 is 818.70 CFU/m³, lecture room 2 is 600.38 CFU/m³, lecture room 3 is 204.67 CFU/m³, chemistry laboratory is 40.93 CFU/m³ and biology laboratory is 477.57 CFU/m³. Both counts does not exceed the microbiological limit which is 500 CFU/m³ and 1000 CFU/m³ respectively. The bacterial isolates obtained were mostly Gram-positive cocci. The most prevalent fungi observed is expected to be genus Aspergillus.