ABSTRACT

The rapid development of information technology has been accompanied by its growing user base. The utilization of information technology in the form of websites has been widely adopted by various entities. XYZ University is an educational institution that uses a website for academic purposes, teaching and learning activities, and various internal needs. One of the websites used by XYZ University aims to accommodate the attendance requirements for practical activities of both students and teaching assistants in the Faculty of XYZ. Alongside the benefits experienced from technological advancements, there has been an increase in security attacks employing various threat techniques against websites by malicious parties aiming to harm website owners and users. Therefore, a vulnerability assessment is necessary to identify security loopholes on the website of Faculty XYZ using the Vulnerability Assessment and Penetration Testing (VAPT) method with the utilization of automated scanning tools. For this assessment, several tools were employed, namely Nessus, Burp Suite, and OWASP ZAP. During the vulnerability analysis testing using Nessus, 5 vulnerabilities were found. Burp Suite identified 8 vulnerabilities, and OWASP ZAP found 14 vulnerabilities. After evaluating the vulnerabilities from all three tools, it was determined that there were a total of 9 vulnerabilities suitable for exploitation and mitigation. As a result of the mitigation process, it was determined that 3 out of the 9 identified vulnerabilities were successfully addressed.

Keyword—*Vulnerability,* **VAPT,** *automated scanning, exploitation, mitigation.*