Evaluation of the Internal Environmental Conditions of the Jerash Archaeological Museum in Jordan

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Abstract:

Jerash Archeological Museum is located on a high hill overlooking the ancient and residential city of Jerash, Jordan. It contains a lot of organic collocations such as bones, ivory and inorganic material, including pottery, stone, glass, and metal from various periods and civilizations of Jerash since the stone age. These artifacts are exhibited in showcases or without showcases in the museum. The present research paper aims to evaluate the degrees of relative humidity, temperature, and light inside the museum and their impact on the collections. Fluctuations of temperature and humidity caused by external factors, including climate, or visitors are a serious problem for many museums. Most of the recent studies related to the conservation and protection of antiquities recommend the application of the concept of preventive conservation that includes controlling temperature and relative humidity in museums to balance relative humidity, for instance, in the surrounding environment to protect these materials. The study was carried out inside Jerash Archaeological Museum by measuring the temperature and relative humidity using Datalogger and Digital Light Meter to measure the intensity of lighting for a year from November 2019 to October 2020. The portable digital microscope was used to study the surfaces of some museum artifacts. The results indicated that the environmental conditions inside the museum are not controlled and there is a large fluctuation of the degrees of relative humidity and temperature throughout the year. The highest value of relative humidity (95.4%) was reported in January, whereas the highest value of temperature (38.4°C) was in June. Thus, some artifacts, especially the metals, were deteriorated may cause the damage of some archaeological collections, especially metals. Urgent intervention and appropriate measures must be taken to reduce the risk of these conditions to preserve these artifacts from deterioration.

Key Words:

Internal environment, preventive conservation, relative humidity, Jerash Archaeological Museum, Jordan.

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