رسائل الماجستير والدكتوراه - كلية العلوم - قسم الرياضيات 2025م

ID	Name	Title	Superisors	Departmen t	Master-doctor	pag es	Abstract
13142965	Adel, Seif Eldeen	Mathematical Modeling For Some Quantum Systems: Quantum Information Resource	Abdel-Shafy Fahmy Obada, Nagat Abdel-Rahman Hussein ,Mostafa Hashem Ibrahim, Moataz Mostafa Ali Elkhateeb	Mathematics	Master	78	coherence and quantum entanglement in quantum information through the interaction between an atomic system described by a three-level atom with a quantized radiation field, which has one mode. The analytical formulae of the quantum correlation measures, such as mutual information and negativity, are used to study the sensitivity of the generated correlation (due to the unitary cavity-qutrits interaction) under the consideration parameters of the .intrinsic decoherence We investigate intrinsic noise models for Ξ-type

							-qutrits resonantly cou pled to a single-mode coherent cavity field through a multi-photon transition. The dynamics are analyzed using atomic population, quantum coherence (quantified by entropy and its partial functions), and total correlations (mea- sured via negativity and mutual information). Furthermore, we study the influence of a nonlinear Kerr-like medium on the interaction between the qutrit and the cavity field in the multi-photon process. We may summarize the results of :the thesis as follows Chapter one, serves as an
13135680	Kamel, Rehab Shahir .Mohamed	Some Problems in Heat and Mass Transfer in Nanofluids with Biological Applications	Fekry Mohamed Hady, Mohamed Rady Hedar, Ahmed Mostafa Ismaeel	Mathematics	Doctor	142	One of the biggest problems facing mode medicine is continuing to improve the effectiveness of cancer treatment, which has become a crnritical global public health issue. The

							three main clinical cancer treatment modalities radiation, chemotherapy, and surgery all have some unavoidable negative consequences for the body. However, the development of photothermal therapy provides a different approach to treating cancer. High precision and minimal toxicity are two benefits of photothermal therapy, which uses photothermal agents with photothermal conversion capability to eradicate malignant cells at high temperatures. Because of its excellent photothermal capabilities and tumor-killing efficacy, nanomaterial-based photothermal therapy has attracted significant attention as nanomaterials play an increasingly important role in tumor prevention and treatment. Photothermal therapy

							has the potential to destroy cancer tissues by raising their ambient temperature. A crucial aspect of photothermal therapy involves optimizing the temperature at which tumor tissue is heated while limiting any potential harm to the surrounding normal tissues. Tumor tissue is frequently heated to a temperature of 50 °C or
13134095	Abdel-Bary, Esraa Ramadan .Mohammed	Modeling and Analysis of Virological Infection / Dynamics	Ahmed Maher, Shimaa Abdel-Hameed Azo	Mathematics	Doctor	230	The world has been suffering from the coronavirus disease 2019 (COVID-19) since late 2019. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infects the respiratory tract's epithelial cells and causes COVID-19. Human immunodeficiency virus (HIV) infects CD4+T cells and causes acquired immunodeficiency syndrome (AIDS). HIV co-infection with SARS-CoV-2 has been reported in many patients around

							the world. This has raised the alarm for the importance of understanding the dynamics of co-infection and its impact on the lives of patients. Mathematical models aid biological and medical research on human viral infections. The global stability of viral infection models is an important and unsolved scientific challenge. Infection treatment techniques and thresholds require such results. This thesis aims to create new mathematical models to characterize the co-dynamics of SARS-CoV-2 and HIV-in a host of ordinary differential equations (ODEs), delay differential equations (DDEs), partial differential equations (PDEs) and fractional-order differential .(equations (FDEs