الفصل الدراسي الثاني ٢٠١٩ - ٢٠٢٠ م موضوعات المقالات البحثية مادة: المعادلات التفاضلية الجزئية والدوال الخاصة



جامعة كفر الشيخ كلية التربية – شعبة الرياضيات الفرقة الثالثة رياضيات عام

من خلال دراستك لمادة المعادلات التفاضلية الجزئية والدوال الخاصة تناول بالبحث بالتفصيل احد النقاط التالية :-

- 1- Gamma function (Special function) and the separation variables method (P.D.E.), give some applied examples.
- 2- Legndre's polynomials (Special function) and the partial differential equations by using elimination arbitrary constant (P.D.E.), give some applied examples.
- 3- Beta function (Special function) and the partial differential equations by using elimination arbitrary functions (P.D.E.), give some applied examples.
- 4- Hermite's polynomials (Special function) and solutions partial differential equations by using Lagrangen equation(P.D.E.), give some applied examples.
- 5- Leguerre's polynomials (Special function), classification of partial differential equations (P.D.E.), give some applied examples.
- 6- Bessel functions (Special function) and Euler's equation in partial differential equations (P.D.E.), give some applied examples.
- 7- The partial differential equations by using elimination of the arbitrary functions (P.D.E.) and the general form of Beta function in polar coordinates (Special function), give some applied examples.
- 8- Formation of partial differential equations and its solutions (P.D.E.) and the recurrence relation for Legendre's polynomials (Special function) , give some applied examples.
- 9- Classification of partial differential equations and some methods of solution partial differential equations (P.D.E.) and the orthogonal properties of Hermite's polynomials (Special function), give some applied examples.
- 10- Laplace transform, how to solve partial differential equations and the orthogonal properties for Laguerre's polynomials (Special function), give some applied examples.

رئيس مجلس القسم

أستاذ المادة

أ د/ أحمد المغربي

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