

Class:B.Sc(H)Mathematics

Semester V

Paper Code:MAHT 501

Unique Paper Code: 235501

### Paper Title: Differential Equations and Mathematical Modeling III

[1] Differential Equation and Boundary Value Problems, Edwards and Penney, THIRD EDITION  
[2] A First Course in Mathematical Modeling, Frank. R. Giordano, M.D. Weir and William P. Fox, Thomson Learning, London and New York, 2003  
[3] Graphs and Applications: An Introductory Approach, **Aldous**, Joan M., **Wilson**, Robin J., 2000, Springer-Verlag London

### Internal Assessment Schedule

| Date   | Component      | Objectives   | Marks | Scope  | Evaluation Policy  |
|--|----------------|--|-------|--|--|
| 12 Aug 2016<br>during Tutorial<br>at 12:45pm in<br>Room No-102         | Test 1         | To test basic<br>concepts of<br>Power series<br>solutions                          | 10    | Section I:<br>Chapter 8 of [1]<br>and its<br>Exercise(Proble<br>ms 8.1, 8.2, and<br>8.3)           | Marks awarded for<br>well written<br>solutions. Additional<br>credit for precise<br>arguments and<br>presenations. |
| 26 Aug 2016<br>during First<br>Lecture at<br>09:30am in<br>Room No-102 | Test 2         | To test<br>applications of<br>Laplace<br>Transform in<br>Differential<br>Equations | 10    | Section I:<br>Chapter 7 of [1]<br>and its<br>Exercise(Proble<br>ms 7.1, 7.2, 7.3,<br>7.4, and 7.5) | Marks awarded for<br>well written<br>solutions. Additional<br>credit for precise<br>arguments and<br>presenations. |
| 07 Oct 2016<br>during Lecture<br>at 09:30am in<br>Room No-102          | Test 3         | To test basic<br>concepts Monte<br>Carlo Simulation<br>and Sensitivity<br>Analysis | 10    | Section II:<br>Chapter 5 and<br>Chapter 7 of [2]<br>and its<br>Exercise(5.1, 5.2<br>and 5.3)       | Marks awarded for<br>well written<br>solutions. Additional<br>credit for precise<br>arguments and<br>presenations. |
| 01 Nov 2016<br>during Tutorial<br>at 12:45am in<br>Room No-102         | Test 4         | To test basic<br>concepts of<br>Graph Theory                                       | 10    | Section III:<br>Chapter 1, 2,<br>and 3 [3] and its<br>Exercise                                     | To the point ans is<br>expected. Garbage<br>will be awarded<br>negatively.   |
| November   | Presentation 1 | Power Series   | 10    | Section I  | Presentation(20%)  |
| November   | Presentation 2 | Simulation   | 10    | Section II   | Attentiveness(30%)   |
| November   | Presentation 3 | Graph Theory   | 10    | Section III  | Q n A(50%)   |