**Lesson Plan**

Name of the Teacher - Kamal deep kaur

Class - M.Sc.(Pre) maths

Name of Subject with Code- Complex Analysis(MTHCC-2104)

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| **Week1,** | | |
| 01-08-18 | Analytic function | |
| 02-08-18 | Examples of analytic function | |
| 03-08-18 | Harmonic function | |
| 04-08-18 | Algebra of analytic function | |
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| **Week 2,** |  | |
| 06-08-18 CR equations | | |
| 07-08-18 | Uniquely determined analytic function | |
| 08-08-18 | Reflection principal | |
| 09-08-18 | Path in a region | |
| 10-08-18 | Smooth path | |
| 11-08-18 | p.w. smooth path | |
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| **Week 3,** | | |
| 13-08-18 | Contour | |
| 14-08-18 | Properties of contour | |
| 16-08-18 | Simply connected region | |
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| **Week 4,** |  | |
| 20-08-18 multiply connected region | | |
| 21-08-18 | Complex integration | |
| 22-08-18 | Properties of complex integration | |
| 23-08-18 | First theorem on complex integration | |
| 24-08-18 | Second theorem on complex integration | |
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| **Week 5,** |  | |
| 27-08-18 | Cauchy’s goursat theorem | |
| 28-08-18 | Cauchy’s theorem for simply connected domains | |
| 29-08-18 | Cauchy’s theorem for multiply connected domains | |
| 30-08-18 | TEST | |
| 31-08-18 | Discussion | |
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| **Week 6,** |  | |
| 01-09-18 | .  Cauchy’s integral formula | |
| **Week 7,** |  | |
| 04-09-18 | Chauchy’s integral formula for multiply connected | |
| 05-09-18 | Higher order derivative of Cauchy integral formula | |
| 06-09-18 | Gauss mean value theorem | |
| 07-09-18 problem on gauss theorem | | |
| 08-09-18 | Morera theorem | |
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| **Week8,** |  | |
| 10-09-18 | Cauchy’s inequality | |
| 11-09-18 | Examples of cauchy’s inequality | |
| 12-09-18 | Doubts | |
| 13-09-18 | Liouville’s theorem | |
| 14-09-18 | Examples | |
| **Week 9,** | | |
| 17-09-18 | Doubts | |
| 18-09-18 | Taylor’s theorem | |
| 19-09-18 | Examples | |
| 20-09-18 | Doubts | |
| 21-09-18 | Maximum modulus principle | |
| 22-09-18 | Minimum modulus principle | |
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| **Week 10,** | | |
| 24-09-18 | Exercise | |
| 26-09-18 | Doubt | |
| 27-09-18 | Schwarz lemma | |
| 28-09-18 | Test | |
| 29-09-18 | Doubt | |
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| **Week 11,** | | |
| 1-10-18 | Power seies | |
| 3-10-18 | Radius of convergence | |
| 4-10-18 | Sum and product | |
| 5-10-18 | Differentiability of sum function of power series | |
| 6-10-18 | Examples | |
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| **Week 12,** | | |
| 8-10-18 | Entire function | |
| 9-10-18 | Problems on entire function | |
| 10-10-18 | Radius of convergence of an entire function | |
| 11-10-18 | Problems | |
| 12-10-18 | Examples on power series | |
| 13-10-18 | Revision | |
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| **Week 13,** | | |
| 15-10-18 | SESSIONAL EXAM | |
| 15-10-18 | SESSIONAL EXAM | |
| 16-10-18 | SESSIONAL EXAM | |
| 17-10-18 | SESSIONAL EXAM | |
| 18-10-18 | SESSIONAL EXAM | |
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| **Week 14,** |  | |
| 22-10-18 Property of differentiable function with derivative zero | | |
| 23-10-18 | Expz and its properties | |
| 25-10-18 | Logz | |
| 26-10-18 | Power of a complex number | |
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| **Week 15,** |  | |
| 29-10-18 | Their branches with analyticity | |
| 30-10-18 zeros of an analytic function | | |  |
| 31-10-18 | Examples | |
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| **Week 16,** |  | |
| 02-11-18 | Singularities and their classifications | |
| 03-11-18 | Pole of a function with its order | |
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| **Week 17** | | |
| 05-11-18 | Revision | |
| 10-11-18 | TEST | |
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| **Week 18** |  | |
| 05-11-18 | Revision | |
| 10-11-18 | TEST | |
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| **Week 19** |  | |
| 12-11-18 | Doubts | |
| 13-11-18 | Laurent series | |
| 14-11-18 | Cassorati-weierstrass theorem | |
| 15-11-18 | Meromorphic function | |
| 16-11-18 | The argument principle | |
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| **Week 20** |  | |
| 19-11-18 | Rouche’s theorem | |
| 20-11-18 | Inverse function theorem | |
| 21-11-18 | Cauchy residue theorem | |
| 22-11-18 | Examples | |
| 24-11-18 | Evaluation of integrals | |
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| **Week 21** |  | |
| 26-11-18 | Bilinear transformation | |
| 27-11-18 | Their properties and classification | |
| 28-11-18 | Definition of conformal mapping | |
| 29-11-18 | Examples of conformal mapping | |
| 30-11-18 | Revision | |