



SADAKATHULLAH APPA COLLEGE (AUTONOMOUS)
Rahmath Nagar, Tirunelveli - 627 011
Online-Class Lesson Plan
Academic Year 2020-2021 [Even Semester]

Department: Physics-PG

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| Class | : I M.Sc. Physics |
| Semester | : II |
| Name of the Faculty | : Mrs. A. Ferin Fathima |
| Title of the Course | : MATHEMATICAL PHYSICS II |
| Subject Code | : 18PCPH21 |
| ICT Tools used | : Google Classroom |
| Text books | : Mathematical physics, sathya prakash |
| Reference books | : Applied Mathematics for Engineers and Physicists ,Pipes and Harvil |
| e-resources | : Power Point Presentation |

| Sl. No | Actual Date | Time | Order | Unit | Topics Planned | Date-Topics Covered on | Remarks |
|--------|-------------|-------------|-------|------|--------------------------------------|------------------------|---------|
| 1 | 25.01.2021 | 3.30 - 4.20 | C | I | Functions of complex variable | 25.01.2021 | |
| 2 | 27.01.2021 | 1.30-2.20 | D | I | Cauchy Riemann differential equation | 29.01.2021 | |
| 3 | 29.01.2021 | 1.30-2.20 | F | I | " | | |
| 4 | 29.01.2021 | 4.30-5.20 | F | I | Cauchy's integral theorem | 01.02.2021 | |
| 5 | 01.02.2021 | 2.30-3.20 | B | I | " | | |
| 6 | 02.02.2021 | 3.30 - 4.20 | C | I | Cauchy's integral formula | 03.02.2021 | |
| 7 | 03.02.2021 | 1.30-2.20 | D | I | | | |

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| Sl. No | Actual Date | Time | Order | Unit | Topics Planned | Date-Topics Covered on | Remarks |
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| 8 | 05.02.2021 | 1.30-2.20 | F | I | Taylor's series | 05.02.2021 | |
| 9 | 05.02.2021 | 4.30-5.20 | F | I | " | | |
| 10 | 08.02.2021 | 2.30-3.20 | B | I | Laurent's series | 08.02.2021 | |
| 11 | 09.02.2021 | 3.30 - 4.20 | C | I | " | | |
| 12 | 10.02.2021 | 1.30-2.20 | D | I | Cauchy residue theorem | 12.02.2021 | |
| 13 | 12.02.2021 | 1.30-2.20 | F | I | Residues and their evaluations | 16.02.2021 | |
| 14 | 12.02.2021 | 4.30-5.20 | F | II | Bessel differential equation and Bessel's function | 17.02.2021 | |
| 15 | 16.02.2021 | 2.30-3.20 | B | II | " | | |
| 16 | 17.02.2021 | 3.30 - 4.20 | C | II | " | | |
| 17 | 18.02.2021 | 1.30-2.20 | D | II | Recurrence relations | 20.02.2021 | |
| 18 | 20.02.2021 | 1.30-2.20 | F | II | " | | |
| 19 | 20.02.2021 | 4.30-5.20 | F | II | Orthonormality of Bessel's functions | 23.02.2021 | |
| 20 | 23.02.2021 | 2.30-3.20 | B | II | " | | |
| 21 | 24.02.2021 | 3.30 - 4.20 | C | II | Generating function | 24.02.2021 | |
| 22 | 25.02.2021 | 1.30-2.20 | D | II | " | | |

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| 23 | 27.02.2021 | 1.30-2.20 | F | II | Laguerre's Differential equation and Laguerre polynomials | 27.02.2021 | |
| 24 | 27.02.2021 | 4.30-5.20 | F | II | " | | |
| 25 | 02.03.2021 | 2.30-3.20 | B | II | Generating function | 02.03.2021 | |
| 26 | 03.03.2021 | 3.30 - 4.20 | C | II | Recurrence relations | 03.03.2021 | |
| 27 | 04.03.2021 | 1.30-2.20 | D | II | Orthogonal property | 06.03.2021 | |
| 28 | 06.03.2021 | 1.30-2.20 | F | III | Solution of heat flow equation (Method of separation of variables) | 09.03.2021 | |
| 29 | 06.03.2021 | 4.30-5.20 | F | III | Variable linear flow in an infinite bar | 15.03.2021 | |
| 30 | 09.03.2021 | 2.30-3.20 | B | III | " | | |
| 31 | 10.03.2021 | 3.30 - 4.20 | C | III | two dimensional heat flow | 22.03.2021 | |
| 32 | 11.03.2021 | 1.30-2.20 | D | III | " | | |
| 33 | 15.03.2021 | 1.30-2.20 | F | III | three dimensional heat flow | 30.03.2021 | |
| 34 | 15.03.2021 | 4.30-5.20 | F | III | " | | |
| 35 | 17.03.2021 | 2.30-3.20 | B | III | Heat flow in circular and rectangular plates | 01.04.2021 | |
| 36 | 18.03.2021 | 3.30 - 4.20 | C | III | " | | |
| 37 | 19.03.2021 | 1.30-2.20 | D | III | Equation of motion for the vibrating string | 05.04.2021 | |
| 38 | 22.03.2021 | 1.30-2.20 | F | III | " | | |

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| 39 | 22.03.2021 | 4.30-5.20 | F | III | Vibrations of a rectangular membrane | 07.04.2021 | |
| 40 | 24.03.2021 | 2.30-3.20 | B | III | Vibrations of a circular membrane | 07.04.2021 | |
| 41 | 25.03.2021 | 3.30 - 4.20 | C | IV | Occurrence of tensors in physics | 09.04.2021 | |
| 42 | 26.03.2021 | 1.30-2.20 | D | IV | Contravariant & Covariant tensors | 09.04.2021 | |
| 43 | 30.03.2021 | 1.30-2.20 | F | IV | " | | |
| 44 | 30.03.2021 | 4.30-5.20 | F | IV | Tensors of second rank, Algebra of tensors | 15.04.2021 | |
| 45 | 01.04.2021 | 2.30-3.20 | B | IV | " | | |
| 46 | 03.04.2021 | 3.30 - 4.20 | C | IV | Equality and null tensors , Addition and subtraction | 16.04.2021 | |
| 47 | 05.04.2021 | 1.30-2.20 | D | IV | outer product , Inner product , Contraction of tensors | 16.04.2021 | |
| 48 | 07.04.2021 | 1.30-2.20 | F | IV | Symmetric and Anti-symmetric tensor , Kronecker delta | 19.04.2021 | |
| 49 | 07.04.2021 | 4.30-5.20 | F | IV | Quotient law , Metric tensor | 19.04.2021 | |
| 50 | 09.04.2021 | 2.30-3.20 | B | IV | Simple applications of tensors to non-relativistic physics. | 21.04.2021 | |
| 51 | 15.04.2021 | 3.30 - 4.20 | C | IV | " | | |
| 52 | 16.04.2021 | 1.30-2.20 | D | V | Contravariant & Covariant tensors | 21.04.2021 | |
| 53 | 19.04.2021 | 1.30-2.20 | F | V | " | | |

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| 54 | 19.04.2021 | 4.30-5.20 | F | IV | Dirac delta function | 22.04.2021 | |
| 55 | 21.04.2021 | 2.30-3.20 | B | V | Some representation of dirac delta function | 22.04.2021 | |
| 56 | 22.04.2021 | 3.30 - 4.20 | C | V | “ | | |
| 57 | 23.04.2021 | 1.30-2.20 | D | V | Properties of dirac delta function | 23.04.2021 | |
| 58 | 26.04.2021 | 1.30-2.20 | F | V | “ | | |
| 59 | 26.04.2021 | 4.30-5.20 | F | V | “ | | |
| 60 | 28.04.2021 | 2.30-3.20 | B | V | Green's functions | 23.04.2021 | |
| 61 | 29.04.2021 | 3.30 - 4.20 | C | V | Symmetric property | 23.04.2021 | |
| 62 | 30.04.2021 | 1.30-2.20 | D | V | Greens functions for boundary value problems | 26.04.2021 | |
| 63 | 04.05.2021 | 1.30-2.20 | F | V | Green's functions for Poisson's equation | 26.04.2021 | |
| 64 | 04.05.2021 | 4.30-5.20 | F | V | “ | | |
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SADAKATHULLAH APPA COLLEGE (AUTONOMOUS)

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Online-Class Lesson Plan

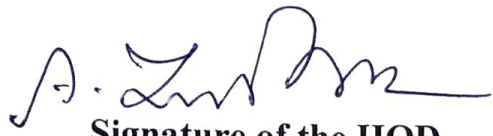
Academic Year 2020-2021 [Even Semester]

Department: Physics-PG

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|----------------------------|--|
| Class | : I M.Sc. Physics |
| Semester | : II |
| Name of the Faculty | : Mrs.A.ZEENATH BAZEERA |
| Title of the Course | : Quantum Mechanics-I |
| Subject Code | : 18PCPH22 |
| IT Tools used | : Google Classroom |
| Text books | : L.I. Schiff – Quantum Mechanics |
| Reference books | : Advanced Quantum Mechanics- Sathya prakash |
| e-resources | : Power Point Presentation |

| Sl. No | Actual Date | Time | Order | Unit | Topics Planned | Date-Topics Covered on | Remarks |
|--------|-------------|-------------|-------|------|--|------------------------|---------|
| 1 | 17.12.2020 | 1:25 – 2:25 | A | I | Introduction –Quantum Mechanics | 17.12.2020 | |
| 2 | 18.12.2020 | 1:25 – 2:25 | B | I | Postulates of quantum mechanics | 18.12.2020 | |
| 3 | 19.12.2020 | 1:25 – 2:25 | C | I | Equation of motion of matter waves | 19.12.2020 | |
| 4 | 22.12.2020 | 1:25 – 2:25 | E | I | Physical interpretation of wave function | 22.12.2020 | |
| 5 | 23.12.2020 | 3:25 – 4:10 | F | I | Normalised and orthogonal wave functions | 23.12.2020 | |
| 6 | 24.12.2020 | 1:25 – 2:25 | A | I | Normalised and orthogonal wave functions | 24.12.2020 | |


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| Sl. No | Actual Date | Time | Order | Unit | Topics Planned | Date-Topics Covered on | Remarks |
|--------|-------------|-------------|-------|------|---|------------------------|---------|
| 7 | 26.12.2020 | 1:25 – 2:25 | B | I | Solution of Schrödinger equation | 26.12.2020 | |
| 8 | 28.12.2020 | 1:25 – 2:25 | C | I | Stationary state solution | 28.12.2020 | |
| 9 | 30.12.2020 | 1:25 – 2:25 | E | I | Stationary state solution | 30.12.2020 | |
| 10 | 31.12.2021 | 3:25 – 4:10 | F | I | Expectation values of dynamical quantities | 31.12.2021 | |
| 11 | 02.01.2021 | 1:25 – 2:25 | A | I | Probability current density | 02.01.2021 | |
| 12 | 04.01.2021 | 1:25 – 2:25 | B | I | Ehrensfer's theorem | 04.01.2021 | |
| 13 | 05.01.2021 | 1:25 – 2:25 | C | I | Uncertainty principle | 07.01.2021 | |
| 14 | 07.01.2021 | 1:25 – 2:25 | E | I | Mathematical proof of Uncertainty principle for one dimensional wave packet | 07.01.2021 | |
| 15 | 08.01.2021 | 3:25 – 4:10 | F | I | Mathematical proof of Uncertainty principle for one dimensional wave packet | 08.01.2021 | |
| 21 | 11.01.2021 | 1:25 – 2:25 | A | II | Introduction-Potential State | 11.01.2021 | |
| 22 | 12.01.2021 | 1:25 – 2:25 | B | II | Free Particle | 12.01.2021 | |
| 23 | 13.01.2021 | 1:25 – 2:25 | C | II | Bound State Problems | 13.01.2021 | |
| 24 | 19.01.2021 | 1:25 – 2:25 | E | II | Particle in a box | 19.01.2021 | |
| 25 | 20.01.2021 | 3:25 – 4:10 | F | II | Particle in a box | 19.01.2021 | |
| 26 | 21.01.2021 | 1:25 – 2:25 | A | II | One dimensional square well potential | 21.01.2021 | |

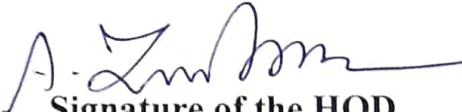
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| 27 | 22.01.2021 | 1:25 – 2:25 | B | II | Finite potential step | 22.01.2021 | |
| 28 | 23.01.2021 | 1:25 – 2:25 | C | II | Finite potential step | 22.01.2021 | |
| 29 | 27.01.2021 | 1:25 – 2:25 | E | II | Linear harmonic oscillator | 29.01.2021 | |
| 30 | 28.01.2021 | 3:25 – 4:10 | F | II | Linear harmonic oscillator | 29.01.2021 | |
| 31 | 29.01.2021 | 1:25 – 2:25 | A | II | Schrodinger equation | 29.01.2021 | |
| 32 | 30.01.2021 | 1:25 – 2:25 | B | II | Eigen values, energy eigen function | 30.01.2021 | |
| 33 | 01.02.2021 | 1:25 – 2:25 | C | II | Rigid rotator | 01.02.2021 | |
| 34 | 03.02.2021 | 1:25 – 2:25 | E | II | Rigid rotator | 03.02.2021 | |
| 35 | 04.02.2021 | 3:25 – 4:10 | F | II | Wave equation | 04.02.2021 | |
| 36 | 05.02.2021 | 1:25 – 2:25 | A | II | Eigen values and eigen function for the rotator | 05.02.2021 | |
| 37 | 06.02.2021 | 1:25 – 2:25 | B | II | Hydrogen atom | 06.02.2021 | |
| 38 | 08.02.2021 | 1:25 – 2:25 | C | II | Solution of radial equation | 08.02.2021 | |
| 39 | 10.02.2021 | 1:25 – 2:25 | E | II | Solution of radial equation | 10.02.2021 | |
| 40 | 11.02.2021 | 3:25 – 4:10 | F | II | Energy levels | 11.02.2021 | |
| 41 | 12.02.2021 | 1:25 – 2:25 | A | III | Introduction | 12.02.2021 | |
| 42 | 15.02.2021 | 1:25 – 2:25 | B | III | Equations of motion | 15.02.2021 | |
| 43 | 16.02.2021 | 1:25 – 2:25 | C | III | Schrödinger picture | 16.02.2021 | |

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| 44 | 18.02.2021 | 1:25 – 2:25 | E | III | Heisenberg picture | 16.02.2021 | |
| 45 | 19.02.2021 | 3:25 – 4:10 | F | III | Interaction picture | 19.02.2021 | |
| 46 | 20.02.2021 | 1:25 – 2:25 | A | III | Poisson bracket and commutator bracket | 20.02.2021 | |
| 47 | 22.02.2021 | 1:25 – 2:25 | B | III | Density operator | 22.02.2021 | |
| 48 | 23.02.2021 | 1:25 – 2:25 | C | III | Density matrix for a single system | 23.02.2021 | |
| 49 | 25.02.2021 | 1:25 – 2:25 | E | III | Matrix theory of Harmonic oscillator | 25.02.2021 | |
| 50 | 26.02.2021 | 3:25 – 4:10 | F | III | Dirac's BRA and KET vectors | 26.02.2021 | |
| 51 | 27.02.2021 | 1:25 – 2:25 | A | III | Linear vector space and Hilbert space | 26.02.2021 | |
| 52 | 01.03.2021 | 1:25 – 2:25 | B | III | Projection and Displacement operators | 01.03.2021 | |
| 53 | 02.03.2021 | 1:25 – 2:25 | C | III | Matrix representation for position, momentum, creation and annihilation operation. | 01.03.2021 | |
| 54 | 04.03.2021 | 1:25 – 2:25 | E | IV | Introduction | 08.03.2021 | |
| 55 | 05.03.2021 | 3:25 – 4:10 | F | IV | Angular momentum operator in position representation | 08.03.2021 | |
| 56 | 06.03.2021 | 1:25 – 2:25 | A | IV | The rotational operator and angular momentum | 09.03.2021 | |
| 57 | 08.03.2021 | 1:25 – 2:25 | B | IV | The rotational operator and angular momentum | 09.03.2021 | |
| 58 | 09.03.2021 | 1:25 – 2:25 | C | IV | The total angular momentum operators | 11.03.2021 | |
| 59 | 11.03.2021 | 1:25 – 2:25 | E | IV | commutation relation of total angular momentum with components | 11.03.2021 | |

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| 60 | 12.03.2021 | 3:25 – 4:10 | F | IV | Raising and lowering operators in angular momentum | 12.03.2021 | |
| 61 | 15.03.2021 | 1:25 – 2:25 | A | IV | Eigen values of J^2 and J_z | 15.03.2021 | |
| 62 | 16.03.2021 | 1:25 – 2:25 | B | IV | Addition of angular momenta | 16.03.2021 | |
| 63 | 17.03.2021 | 1:25 – 2:25 | C | IV | Addition of angular momenta | 17.03.2021 | |
| 64 | 19.03.2021 | 1:25 – 2:25 | E | IV | Addition of angular momenta | 19.03.2021 | |
| 65 | 20.03.2021 | 3:25 – 4:10 | F | IV | Clebsch Gordan coefficients $j_1=1/2$, $j_2=1/2$ | 19.03.2021 | |
| 66 | 22.03.2021 | 1:25 – 2:25 | A | IV | Clebsch Gordan coefficients $j_1=1/2$, $j_2=1/2$ | 22.03.2021 | |
| 67 | 23.03.2021 | 1:25 – 2:25 | B | IV | Clebsch Gordan coefficients $j_1=1/2$, $j_2=1/2$ | 23.03.2021 | |
| 68 | 24.03.2021 | 1:25 – 2:25 | C | IV | Clebsch Gordan coefficients $j_1=1/2$, $j_2=1/2$ | 24.03.2021 | |
| 69 | 26.03.2021 | 1:25 – 2:25 | E | V | Introduction- Identical Particle | 26.03.2021 | |
| 70 | 27.03.2021 | 3:25 – 4:10 | F | V | Symmetric and anti-symmetric wave functions | 27.03.2021 | |
| 71 | 30.03.2021 | 1:25 – 2:25 | A | V | Symmetric and anti-symmetric wave functions | 30.03.2021 | |
| 72 | 31.03.2021 | 1:25 – 2:25 | B | V | Particle exchange operator | 31.03.2021 | |
| 73 | 01.04.2021 | 1:25 – 2:25 | C | V | Spin angular momentum | 01.04.2021 | |
| 74 | 05.04.2021 | 1:25 – 2:25 | E | V | The Pauli's exclusion principle | 05.04.2021 | |

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| 75 | 06.04.2021 | 3:25 – 4:10 | F | V | Electronic spin hypothesis: Pauli's spin matrices for electron | 06.04.2021 | |
| 76 | 07.04.2021 | 1:25 – 2:25 | A | V | Pauli's operators | 07.04.2021 | |
| 77 | 08.04.2021 | 1:25 – 2:25 | B | V | Density operator and density matrix | 08.04.2021 | |
| 78 | 09.04.2021 | 1:25 – 2:25 | C | V | Time dependent of density matrix | 09.04.2021 | |
| 79 | 15.04.2021 | 1:25 – 2:25 | E | V | Revision | 15.04.2021 | |
| 80 | 16.04.2021 | 3:25 – 4:10 | F | V | Revision | 16.04.2021 | |


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SADAKATHULLAH APPA COLLEGE (AUTONOMOUS)
 Rahmath Nagar, Tirunelveli - 627 011
Online-Class Lesson Plan
Academic Year 2020-2021 [Even Semester]

Department: Physics-PG

| | |
|----------------------------|--|
| Class | : II M.Sc. Physics |
| Semester | : IV |
| Name of the Faculty | : Dr.K. Amutha |
| Title of the Course | : Material Science |
| Subject Code | : 18PEPH4B |
| ICT Tools used | : Google Classroom |
| Text books | : Material Science- Materials Science and Engineering-A First Course V.Raghavan |
| Reference books | : M.Arumugam, Materials Science |
| e-resources | : Power Point Presentation |

| Sl. No | Actual Date | Time | Order | Unit | Topics Planned | Date-Topics Covered on | Remarks |
|--------|-------------|-------------|-------|------|----------------------------|------------------------|---------|
| 1 | 17.12.2020 | 1:25 – 2:25 | A | I | Introduction | 17.12.2020 | |
| 2 | 18.12.2020 | 1:25 – 2:25 | B | I | Crystal symmetry | 18.12.2020 | |
| 3 | 21.12.2020 | 5:30 – 6:30 | D | I | Simple crystal structures | 19.12.2020 | |
| 4 | 22.12.2020 | 1:25 – 2:25 | E | I | Polymorphism and allotropy | 22.12.2020 | |
| 5 | 24.12.2020 | 1:25 – 2:25 | A | I | Crystal directions | 24.12.2020 | |
| 6 | 26.12.2020 | 1:25 – 2:25 | B | I | Crystal imperfections | 26.12.2020 | |
| 7 | 29.12.2020 | 5:30 – 6:30 | D | I | Crystal imperfections | 29.12.2020 | |

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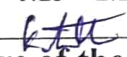
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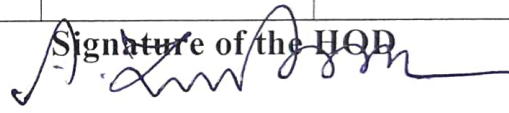
| Sl. No | Actual Date | Time | Order | Unit | Topics Planned | Date-Topics Covered on | Remarks |
|--------|-------------|-------------|-------|------|---|------------------------|---------|
| 8 | 30.12.2020 | 1:25 – 2:25 | E | I | Structure determination by x-ray diffraction | 30.12.2020 | |
| 9 | 04.01.2021 | 1:25 – 2:25 | A | I | Introduction-Bragg's law | 04.01.2021 | |
| 10 | 05.01.2021 | 1:25 – 2:25 | B | I | Determination of lattice parameters (Bragg's x-ray spectrometer method) | 05.01.2021 | |
| 11 | 07.01.2021 | 5:30 – 6:30 | D | I | The laue's method | 07.01.2021 | |
| 12 | 08.01.2021 | 1:25 – 2:25 | E | I | The powder method | 08.01.2021 | |
| 13 | 12.01.2021 | 1:25 – 2:25 | A | II | Conducting Materials-Introduction | 12.01.2021 | |
| 14 | 13.01.2021 | 1:25 – 2:25 | B | II | The classical free electron theory | 19.01.2021 | |
| 15 | 19.01.2021 | 5:30 – 6:30 | D | II | Electrical Conductivity & Thermal Conductivity | 20.01.2021 | |
| 16 | 20.01.2021 | 1:25 – 2:25 | E | II | Wiedmann-Franz law | 22.01.2021 | |
| 17 | 22.01.2021 | 1:25 – 2:25 | A | II | The quantum free electron theory | 23.01.2021 | |
| 18 | 23.01.2021 | 1:25 – 2:25 | B | II | Fermi distribution function | 27.01.2021 | |
| 19 | 27.01.2021 | 5:30 – 6:30 | D | II | Density of energy states | 30.01.2021 | |
| 20 | 28.01.2021 | 1:25 – 2:25 | E | II | Electrons in the periodic potentials | 01.02.2021 | |
| 21 | 30.01.2021 | 1:25 – 2:25 | A | II | Conductors | 03.02.2021 | |
| 22 | 01.02.2021 | 1:25 – 2:25 | B | II | High resistivity materials | 04.02.2021 | |
| 23 | 03.02.2021 | 5:30 – 6:30 | D | III | Semiconducting Material-Introduction | 06.02.2021 | |

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| 24 | 04.02.2021 | 1:25 – 2:25 | E | III | Elemental intrinsic semiconductors | 08.02.2021 | |
| 25 | 06.02.2021 | 1:25 – 2:25 | A | III | Carrier concentration in intrinsic semiconductors | 10.02.2021 | |
| 26 | 08.02.2021 | 1:25 – 2:25 | B | III | Extrinsic semiconductor | 15.02.2021 | |
| 27 | 10.02.2021 | 5:30 – 6:30 | D | III | Carrier concentration in N-type Semiconductor | 16.02.2021 | |
| 28 | 11.02.2021 | 1:25 – 2:25 | E | III | Carrier concentration in P-type Semiconductor | 18.02.2021 | |
| 29 | 15.02.2021 | 1:25 – 2:25 | A | III | Semiconductor materials | 19.02.2021 | |
| 30 | 16.02.2021 | 1:25 – 2:25 | B | III | Carrier concentration in P-type Semiconductor | 22.02.2021 | |
| 31 | 18.02.2021 | 5:30 – 6:30 | D | III | Hall effect | 23.02.2021 | |
| 32 | 19.02.2021 | 1:25 – 2:25 | E | III | Applications | 25.02.2021 | |
| 33 | 22.02.2021 | 1:25 – 2:25 | A | IV | Introduction- Ceramics and Glasses | 26.02.2021 | |
| 34 | 23.02.2021 | 1:25 – 2:25 | B | IV | Traditional & Advanced ceramics | 01.03.2021 | |
| 35 | 25.02.2021 | 5:30 – 6:30 | D | IV | Types of ceramics | 02.03.2021 | |
| 36 | 26.02.2021 | 1:25 – 2:25 | E | IV | Ceramic Manufacturing | 05.03.2021 | |
| 37 | 01.03.2021 | 1:25 – 2:25 | A | IV | Ceramics Properties & Applications | 08.03.2021 | |
| 38 | 02.03.2021 | 1:25 – 2:25 | B | IV | Glass manufacturing- glass properties | 09.03.2021 | |
| 39 | 05.03.2021 | 1:25 – 2:25 | E | IV | Heat treatment of glass | 11.03.2021 | |
| 40 | 08.03.2021 | 1:25 – 2:25 | A | IV | Types of glasses & Applications | 12.03.2021 | |

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|----|------------|-------------|---|----|--|------------|--|
| 41 | 09.03.2021 | 1:25 – 2:25 | B | IV | Introduction- Electrical Materials | 16.03.2021 | |
| 42 | 11.03.2021 | 5:30 – 6:30 | D | IV | Good conductors | 19.03.2021 | |
| 43 | 12.03.2021 | 1:25 – 2:25 | E | IV | Dielectric behavior- Introduction | 23.03.2021 | |
| 44 | 16.03.2021 | 1:25 – 2:25 | A | IV | General Properties | 24.03.2021 | |
| 45 | 17.03.2021 | 1:25 – 2:25 | B | V | Types of Dielectric materials | 26.03.2021 | |
| 46 | 19.03.2021 | 5:30 – 6:30 | D | V | Electronic Polarization | 27.03.2021 | |
| 47 | 20.03.2021 | 1:25 – 2:25 | E | V | Ionic Polarization | 31.03.2021 | |
| 48 | 23.03.2021 | 1:25 – 2:25 | A | V | Orientation Polarization | 01.04.2021 | |
| 49 | 24.03.2021 | 1:25 – 2:25 | B | V | Space-Charge Polarization | 05.04.2021 | |
| 50 | 26.03.2021 | 5:30 – 6:30 | D | V | Internal Field (or) Local Field | 06.04.2021 | |
| 51 | 27.03.2021 | 1:25 – 2:25 | E | V | Internal Field (or) Local Field | 08.04.2021 | |
| 52 | 31.03.2021 | 1:25 – 2:25 | A | V | Clausis-Mosotti Equation | 09.04.2021 | |
| 53 | 01.04.2021 | 1:25 – 2:25 | B | V | Clausis-Mosotti Equation | 10.04.2021 | |
| 54 | 05.04.2021 | 5:30 – 6:30 | D | V | Dielectric Loss | 15.04.2021 | |
| 55 | 06.04.2021 | 1:25 – 2:25 | E | V | Dielectric Breakdown | 16.04.2021 | |
| 56 | 08.04.2021 | 1:25 – 2:25 | A | V | Types of Dielectric Breakdown | 19.04.2021 | |
| 57 | 09.04.2021 | 1:25 – 2:25 | B | V | Classification of Dielectric Materials | 20.04.2021 | |

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|----|------------|-------------|---|---|-------------------------------|------------|--|
| 58 | 10.04.2021 | 1:25 – 2:25 | B | V | Types of Dielectric Breakdown | 22.04.2021 | |
| 59 | 15.04.2021 | 5:30 – 6:30 | D | V | Types of Dielectrics | 23.04.2021 | |
| 60 | 16.04.2021 | 1:25 – 2:25 | E | V | Ferroelectricity | 26.04.2021 | |
| 61 | 19.04.2021 | 1:25 – 2:25 | A | V | Piezoelectricity | 27.04.2021 | |
| 62 | 20.04.2021 | 1:25 – 2:25 | B | V | Pyroelectricity | 29.04.2021 | |
| 63 | 22.04.2021 | 5:30 – 6:30 | D | V | Applications | 30.04.2021 | |
| 64 | 23.04.2021 | 1:25 – 2:25 | E | - | Revision-Unit-I | - | |
| 65 | 26.04.2021 | 1:25 – 2:25 | A | - | Revision-Unit-II | - | |
| 66 | 27.04.2021 | 1:25 – 2:25 | B | - | Revision-Unit-III | - | |
| 67 | 29.04.2021 | 5:30 – 6:30 | D | - | Revision-Unit-IV | - | |
| 68 | 30.04.2021 | 1:25 – 2:25 | E | - | Revision-Unit-V | - | |


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SADAKATHULLAH APPA COLLEGE (AUTONOMOUS)

Rahmath Nagar, Tirunelveli - 627 011

Online-Class Lesson Plan

Academic Year 2020-2021 [Even Semester]

Department: Physics-PG

| | | |
|----------------------------|---|--|
| Class | : | II M.Sc. Physics |
| Semester | : | IV |
| Name of the Faculty | : | Dr. V. Chinnathambi&Dr.SaintaJostar. T |
| Title of the Course | : | Research Methodology |
| Subject Code | : | 18PCPH42 |
| ICT Tools used | : | Google Classroom |
| Text books | : | Research Methodology: Methods and Techniques by C. R. Kothari |
| Reference books | : | Methodology of Research in Social Sciences, by O.R. Krishnaswami |
| e-resources | : | Power Point Presentation |

| Sl. No | Actual Date | Time | Order | Unit | Topics Planned | Date-Topics Covered on | Remarks |
|--------|-------------|------|-------|------|-----------------------------|------------------------|---------|
| 1 | 17-12-2020 | IV | A | I | Introduction | 17-12-2020 | |
| 2 | 21-12-2020 | I | D | I | What is Research | 21-12-2020 | |
| 3 | 23-12-2020 | I | F | I | Objectives of Research | 23-12-2020 | |
| 4 | 24-12-2020 | IV | A | I | Scientific Research | 29-12-2020 | |
| 5 | 29-12-2020 | I | D | I | Characteristics of research | | |
| 6 | 31-12-2020 | I | F | I | Types of Research: Pure | 02-01-2021 | |
| 7 | 02-01-2021 | IV | A | I | Applied Research | | |

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| Sl. No | Actual Date | Time | Order | Unit | Topics Planned | Date-Topics Covered on | Remarks |
|--------|-------------|------|-------|------|--------------------------------------|------------------------|---------|
| 8 | 06-01-2021 | I | D | I | Action Research | 06-01-2021 | |
| 9 | 08-01-2021 | I | F | I | Descriptive Research | 08-01-2021 | |
| 10 | 11-01-2021 | IV | A | I | Steps involved in research process | 20-01-2021 | |
| 11 | 20-01-2021 | I | F | I | Steps involved in research process | | |
| 12 | 21-01-2021 | IV | A | I | Introduction | 21-01-2021 | |
| 12 | 25-01-2021 | I | D | I | Need for Reviewing Literature | 25-01-2021 | |
| 14 | 29-01-2021 | IV | A | I | Literature Search Procedure | 02-02-2021 | |
| 15 | 02-02-2021 | I | D | I | Literature Search Procedure | | |
| 16 | 04-02-2021 | I | F | II | Sources of Literature | 04-02-2021 | |
| 17 | 05-02-2021 | IV | A | II | Planning of Review work | 12-02-2021 | |
| 18 | 12-02-2021 | IV | A | II | Planning of Review work | | |
| 19 | 17-02-2021 | I | D | II | Selection of a Problem for Research | 17-02-2021 | |
| 20 | 19-02-2021 | I | F | II | Formulation of the Selected Problems | 20-02-2021 | |
| 21 | 20-02-2021 | IV | A | II | Formulation of the Selected Problems | | |
| 22 | 24-02-2021 | I | D | II | Hypothesis formation | 24-02-2021 | |
| 23 | 26-02-2021 | I | F | II | Hypothesis formation | 26-02-2021 | |
| 24 | 27-02-2021 | IV | A | II | Research Design supervisor | 03-03-2021 | |
| 25 | 03-03-2021 | I | D | II | Research Design supervisor | | |

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|----|------------|----|---|-----|--|------------|--|
| 26 | 05-03-2021 | I | F | II | Plan Role of research | 05-03-2021 | |
| 27 | 06-03-2021 | IV | A | II | Introduction- Report Writing | 06-03-2021 | |
| 28 | 10-03-2021 | I | D | II | Preliminary pages: Title page | 10-03-2021 | |
| 29 | 12-03-2021 | I | F | II | Certificate | 12-03-2021 | |
| 30 | 15-03-2021 | IV | A | II | Declaration | 15-03-2021 | |
| 31 | 20-03-2021 | I | F | III | Acknowledgement | 20-03-2021 | |
| 32 | 22-03-2021 | IV | A | III | Table of content | 22-03-2021 | |
| 33 | 25-03-2021 | I | D | III | Main body of the report: objectives-hypothesis | 25-03-2021 | |
| 34 | 27-03-2021 | I | F | III | Characterization | 27-03-2021 | |
| 35 | 30-03-2021 | IV | A | III | Reference Section: language and style of writing | 30-03-2021 | |
| 36 | 03-04-2021 | I | D | III | Footnote citations | 03-04-2021 | |
| 37 | 07-04-2021 | IV | A | III | Quotations | 07-04-2021 | |
| 39 | 12-04-2021 | I | D | III | Abbreviations | 12-04-2021 | |
| 40 | 16-04-2021 | I | F | III | Format of synopsis writing. | 16-04-2021 | |
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7



SADAKATHULLAH APPA COLLEGE (AUTONOMOUS)
Rahmath Nagar, Tirunelveli - 627 011
Online-Class Lesson Plan
Academic Year 2020-2021 [Even Semester]

Department: Physics

| | | |
|----------------------------|---|---|
| Class | : | I M.Sc. (Maths & computer Science) |
| Semester | : | II |
| Name of the Faculty | : | Dr. Santa Jostar. T |
| Title of the Course | : | RENEWABLE ENERGY |
| Subject Code | : | 18PIPH21 |
| ICT Tools used | : | Google classroom, Google Meet |
| Text books | : | Non-Conventional Energy Sources by G.D.Rai, Khana Publiation, New Delhi (1988). |
| Reference books | : | Solar Energy by S.P.Sukhatme, Tata Mc. Graw Hill. |
| e-resources | : | Power Point Presentation |

| Sl. No | Actual Date | Time | Order | Unit | Topics Planned | Date-Topics Covered on | Remarks |
|--------|-------------|------------|-------|------|------------------------------------|------------------------|---------|
| 1 | 04.01.2021 | 12.30-1.20 | A | I | Introduction to energy sources | 25.01.2021 | |
| 2 | 06.01.2021 | 12.30-1.20 | C | I | Energy Sources | 29.01.2021 | |
| 3 | 11.01.2021 | 12.30-1.20 | F | I | Types of energy sources- primary | 30.01.2021 | |
| 4 | 12.01.2021 | 12.30-1.20 | A | I | Types of energy sources- secondary | 02.02.2021 | |
| 5 | 18.01.2021 | 12.30-1.20 | C | I | World energy futures | 05.02.2021 | |

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| Sl. No | Actual Date | Time | Order | Unit | Topics Planned | Date-Topics Covered on | Remarks |
|--------|-------------|------------|-------|------|--|------------------------|---------|
| 6 | 21.01.2021 | 12.30-1.20 | F | I | Energy sources and their availability | 06.02.2021 | |
| 7 | 22.01.2021 | 12.30-1.20 | A | I | Prospects of Renewable energy sources | 09.02.2021 | |
| 8 | 25.01.2021 | 12.30-1.20 | C | I | Class test | - | |
| 9 | 29.01.2021 | 12.30-1.20 | F | II | Solar Energy- Introduction | 12.02.2021 | |
| 10 | 30.01.2021 | 12.30-1.20 | A | II | Physical principles of the conversion of solar radiation into heat | 15.02.2021 | |
| 11 | 02.02.2021 | 12.30-1.20 | C | II | Solar energy Collector | 20.02.2021 | |
| 12 | 05.02.2021 | 12.30-1.20 | F | II | Flat plate collector | 20.02.2021 | |
| 13 | 06.02.2021 | 12.30-1.20 | A | II | Flat plate collector- Types | 22.02.2021 | |
| 14 | 09.02.2021 | 12.30-1.20 | C | II | Concentrating collector | 24.02.2021 | |
| 15 | 12.02.2021 | 12.30-1.20 | F | II | Concentrating collector- Types (I & II) | 24.02.2021 | |
| 16 | 15.02.2021 | 12.30-1.20 | A | II | Concentrating collector- Types (III, VI & V) | 01.03.2021 | |
| 17 | 17.02.2021 | 12.30-1.20 | C | II | Advantages and disadvantages of concentrating collectors over flat plate collectors. | 03.03.2021 | |
| 18 | 20.02.2021 | 12.30-1.20 | F | II | Class Test | - | |
| 19 | 22.02.2021 | 12.30-1.20 | A | III | Wind Energy- Introduction | 06.03.2021 | |

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| Sl. No | Actual Date | Time | Order | Unit | Topics Planned | Date-Topics Covered on | Remarks |
|--------|-------------|------------|-------|------|--|------------------------|---------|
| 20 | 24.02.2021 | 12.30-1.20 | C | III | Power from the wind | 08.03.2021 | |
| 21 | 27.02.2021 | 12.30-1.20 | F | III | Class Test | - | |
| 22 | 01.03.2021 | 12.30-1.20 | A | III | Types of Wind Machines | 16.03.2021 | |
| 23 | 03.03.2021 | 12.30-1.20 | C | III | Horizontal axis | 16.03.2021 | |
| 24 | 06.03.2021 | 12.30-1.20 | F | III | Vertical axis | 18.03.2021 | |
| 25 | 08.03.2021 | 12.30-1.20 | A | III | Advantages of wind energy | 22.03.2021 | |
| 26 | 10.03.2021 | 12.30-1.20 | C | III | Disadvantages of wind energy | 23.03.2021 | |
| 27 | 15.03.2021 | 12.30-1.20 | F | III | Class Test | - | |
| 28 | 16.03.2021 | 12.30-1.20 | A | IV | Ocean Thermal Energy- introduction | 25.03.2021 | |
| 29 | 18.03.2021 | 12.30-1.20 | C | IV | Methods of Ocean thermal electric power generation | 30.03.2021 | |
| 30 | 22.03.2021 | 12.30-1.20 | F | IV | Open cycle OTEC system | 31.03.2021 | |
| 31 | 23.03.2021 | 12.30-1.20 | A | IV | Advantages & disadvantages of Open cycle OTEC system | 19.04.2021 | |
| 32 | 25.03.2021 | 12.30-1.20 | C | IV | Assignment | - | |
| 33 | 30.03.2021 | 12.30-1.20 | F | IV | Class test | - | |
| 34 | 31.03.2021 | 12.30-1.20 | A | IV | Closed cycle OTEC system | 20.04.2021 | |

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| Sl. No | Actual Date | Time | Order | Unit | Topics Planned | Date-Topics Covered on | Remarks |
|--------|-------------|------------|-------|------|---|------------------------|---------|
| 35 | 03.04.2021 | 12.30-1.20 | C | IV | Advantages & disadvantages of Closed cycle OTEC system | 20.04.2021 | |
| 36 | 07.04.2021 | 12.30-1.20 | F | IV | Class Test | - | |
| 37 | 08.04.2021 | 12.30-1.20 | A | V | Bioconversion | 22.04.2021 | |
| 38 | 15.04.2021 | 12.30-1.20 | C | V | Biomass- Introduction | 22.04.2021 | |
| 39 | 19.04.2021 | 12.30-1.20 | F | V | Photosynthesis | 26.04.2021 | |
| 40 | 20.04.2021 | 12.30-1.20 | A | V | Biogas generation | 27.04.2021 | |
| 41 | 22.04.2021 | 12.30-1.20 | C | V | Digester and their designs | 29.04.2021 | |
| 42 | 26.04.2021 | 12.30-1.20 | F | V | Advantages and Disadvantages of Biological conversion of solar energy | 29.04.2021 | |
| 43 | 27.04.2021 | 12.30-1.20 | A | V | Applications of Bio-Gas | | |
| 44 | 29.04.2021 | 12.30-1.20 | C | V | Assignment | | |
| 45 | 04.05.2021 | 12.30-1.20 | F | V | Class Test | | |

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