

Vidyasagar Metropolitan College
Department of Physics
Lesson plan for odd semesters, 2023 – '24

1st Semester Major, Minor & IDC

DSC-1: Basic Physics-1

Week, Month	Topic	Teacher
1 st to 4 th week of Sep. 2023	Preliminary ideas of Mathematical Physics	BBR
1 st to 4 th week of Sep. 2023	Vector analysis	PB
1 st to 4 th week of Sep. 2023	Review of Newton's laws	KM
1 st to 2 nd week of Oct. 2023	Curvilinear coordinates	BBR
1 st to 2 nd week of Oct. 2023	Ordinary differential equations	PB
1 st to 2 nd week of Oct. 2023	Work and energy	KM
Last week of Nov. 2023	Work and energy	KM
Last week of No. 2023	Curvilinear coordinates	BBR
Last week of Nov.2023	Dynamics of a system of particles	PB
1 st to 3 rd week of Dec. 2023	Curvilinear coordinates	BBR
1 st to 3 rd week of Dec. 2023	Dynamics of a system of particles	PB
1 st to 3 rd week of Dec. 2023	Central force	KM
1 st to 3 rd week of Jan. 2024	Dynamics of a system of particles	PB
1 st to 3 rd week of Jan. 2024	Mechanics of continuum	BBR
1 st to 3 rd week of Jan. 2024	Central force, scattering	KM

SEC-1: Introduction to computer programming and graph plotting

Week, Month	Topic	Teacher
1 st to 4 th week of Sep. 2023	Plotting of 2D graphs	SR
1 st to 2 nd week of Oct. 2023	Introduction to Python programming	SR
Last week of Nov.2023	Python data types	SR
1 st to 3 rd week of Dec. 2023	Problems and applications	SR
1 st to 3 rd week of Jan. 2024	Problems and applications	SR

IDC-1: Frontiers in Physics

Week, Month	Topic	Teacher
2 nd week of Sep. to 2 nd week of Oct. 2023	Nature of Science	SR
2 nd week of Sep. to 2 nd week of Oct. 2023	Matter	KM
Last week of Nov. to 3 rd week of Dec. 2023	Universe	SR
Last week of Nov. to 3 rd week of Dec. 2023	Forces	KM

- Continuous internal evaluation will be arranged at the last week of each month (online / offline)

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3rd Semester Honours and General

CC5: Mathematical Physics-II

Week, Month	Topic	Teacher
1 st to 4 th week of Sep. 2023	Fourier series	SR
1 st week of Sep. to 2 nd week of Oct. 2023	Frobenius method and special functions	BBR
Last week of Nov.2023	Frobenius method and special functions	BBR
Last week of Nov.2023	Introduction to probability	SR
1 st to 3 rd week of Dec. 2023	Special integrals	SR
1 st to 3 rd week of Dec. 2023	Integral transform	BBR
1 st to 3 rd week of Jan. 2024	Partial differential equations	SR

CC6: Thermal Physics

Week, Month	Topic	Teacher
1 st week of Sep. to 2 nd week of Oct. 2023	Introduction to thermodynamics	KM
Last week of Nov.2023 to 3 rd week of Dec. 2023	Thermodynamic potentials	KM
1 st to 3 rd week of Jan. 2024	Kinetic theory of gases	KM
1 st & 2 nd week of Feb. 2024	Conduction of heat	KM

CC7: Modern Physics

Week, Month	Topic	Teacher
1 st week of Sep. to 2 nd week of Oct. 2023	Radiation and its nature	PB
1 st week of Sep. to 2 nd week of Oct. 2023	Nuclear structure	BBR
Last week of Nov.2023 to 3 rd week of Dec. 2023	Basics of quantum mechanics	PB
Last week of Nov.2023 to 3 rd week of Dec. 2023	Interaction with and within nucleus	BBR
1 st to 3 rd week of Jan. 2024	Laser	PB

SEC-A: Scientific writing

Week, Month	Topic	Teacher
1 st to 4 th week of Sep. 2023	Introduction to LATEX and document classes	SR
1 st to 2 nd week of Oct. 2023	Page layout	SR
Last week of Nov.2023	List structures	SR
1 st to 2 nd week of Dec. 2023	Representation of mathematical equations	SR
3 rd week of Dec. 2023 to 1 st week of Jan. 2024	Customization of fonts	SR
2 nd to 3 rd week of Jan. 2024	Writing tables	SR
1 st & 2 nd week of Feb. 2024	Placing figures	SR

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CC4 / GE4 (General course): Thermal Physics

Week, Month	Topic	Teacher
1 st week of Sep. to 2 nd week of Oct. 2023	Introduction to thermodynamics	KM
Last week of Nov.2023 to 3 rd week of Dec. 2023	Thermodynamic potentials	KM
1 st to 3 rd week of Jan. 2024	Kinetic theory of gases	KM
1 st & 2 nd week of Feb. 2024	Conduction of heat	KM

6th Semester Honours and General

CC11: Electromagnetic theory

Week, Month	Topic	Teacher
1 st to 3 rd week of Sep. 2023	Maxwell's equations	AJ
4 th week of Sep. to 2 nd week of Oct. 2023	EM wave in unbounded media	AJ
Last week of Nov. to 1 st week of Dec. 2023	EM wave in bounded media	AJ
2 nd week of Dec. 2023	Polarization theory	AJ
3 rd week of Dec. 2023	Polarization in uniaxial crystals	AJ
1 st to 2 nd week of Jan. 2024	Rotatory polarization	AJ

CC12: Statistical Physics

Week, Month	Topic	Teacher
1 st week of Sep. to 2 nd week of Oct. 2023	Classical statistical mechanics	SR
Last week of Nov. 2023	System of identical particles	SR
1 st to 3 rd week of Dec. 2023	Bose-Einstein statistics	SR
1 st week of Jan. 2024	Radiation: classical and quantum concepts	SR
2 nd to 3 rd week of Jan. 2024	Fermi-Dirac statistics	SR

DSE-A1: Laser and fiber optics

Week, Month	Topic	Teacher
1 st to 3 rd week of Sep. 2023	Einstein coefficients and rate equations	PB
4 th week of Sep. to 2 nd week of Oct. 2023	Resonators	PB
Last week of Nov. 2023	Laser properties and transient effects	PB
1 st to 2 nd week of Dec. 2023	Different laser systems	PB
3 rd week of Dec. 2023 to 1 st week of Jan. 2024	Fiber optics	PB
2 nd week of Jan..2024	Holography	PB
3 rd week of Jan. 2024	Non-linear optics	PB

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DSE-B1: Nuclear and particle Physics

Week, Month	Topic	Teacher
2 nd week of Sep. 2023	General properties of nuclei	BBR
3 rd to 4 th week of Sep. 2023	Nuclear reactions	BBR
1 st to 2 nd week of Oct. 2023	Interaction of radiation with matter	BBR
Last week of Nov. 2023	Nuclear radiation detectors	BBR
1 st to 3 rd week of Dec. 2023	Particle accelerators	BBR
1 st to 3 rd week of Jan. 2024	Particle Physics	BBR

DSE-A (General course): Modern Physics

Week, Month	Topic	Teacher
1 st to 4 th week of Sep. 2023	Radiation and its nature	BBR
1 st week of Oct. to 2 nd week of Dec. 2023	Foundation of quantum mechanics	BBR
1 st to 2 nd week of Jan. 2023	Special theory of relativity	BBR
3 rd week of Jan. 2023	Lasers	PB

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