"Education for Knowledge, Science, and Culture"
- Shikshanmaharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur (Autonomous)

KOLHAPUR (AUTONOMOUS)

Content with Focus on Employability, Entrepreneurship, Skill Development
(2018-19 to 2023-24)

Sr. No.	Name of the Course	Course code	Year of Introduction	Content with focus on employability	Content with focus on entrepreneurship	Content with focus on skill development
M.Sc. Physics (Newly Introduced between 2018-19 and 2023-24)						
1.	Mathematical methods of Physics	CC-1100A	2018-19	1. Complex Variables	1. Fourier Series and Transform	Matrices
2.	Classical Mechanics	CC-1101A	2018-19	1. Mechanics 2. Lagrange's and Hamilton's theory 3. Canonical Transformation:	1. Mechanics	1. Special Relativity
3.	Quantum Mechanics I	CC-1102A	2018-19	1. Origin and general formalism	1. Angular Momentum	1. Approximation methods I
4.	Condensed Matter Physics	CC-1103A	2018-19	1. Crystallography 2. Semiconductor theory and devices:	1. Crystal defects	1. Statistical Mechanics 2. Interference 3. Diffraction
5.	Quantum Mechanics-II	CC-1106B	2018-19		1. Scattering Theory	1. Quantum Theory of Radiation
6.	Statistical Mechanics	CC-1107B	2018-19	1. Classical statistics-I		

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				2. Quantum Statistics-I		
7.	Electrodynamics	CC-1108B	2018-19		1. Electromagnetic fields and Radiations	1. Relativistic mechanics and covariance
8.	Atomic & Molecular Physics	CC-1109B	2018-19	1. Nuclear models and Nuclear forces 2. Particle Accelerator		Fourier series and integrals Complex analysis
9.	Nuclear and Particle Physics	CC-1112C	2019-20		1. Nuclear Reactions	2. Cosmic rays and elementary particles
10.	Thin film deposition and other techniques	CBP-1113C	2019-20	1. Chemical Vapor, Spray and other deposition techniques 2. Solid solutions and strengthening of metals	1. Heat treatment furnaces	
11.	Solid State Physics- I (Thin Film Deposition Techniques Magnetic and Electric Properties)	CC-1114C	2019-20	1. Chemical methods 2. Physical methods of thin film deposition	1. Electrical Properties in solids 2. Magnetism in solids	
12.	Solid State Physics-II (Semiconductor Physics)	CC-1115C	2019-20			1 Excess Carriers in Semiconductors 2. Junctions-I and II
13.	Experimental Techniques	CC-1118D	2019-20	1. Low Temperature and Microscopy Techniques	1. Transistors and Microwave Devices	
14.	Electronic Devices and Applications	CBP-1119D	2019-20	1.Photonic Devices 2. Sensors	2. Transistors and Microwave Devices	
15.	Solid State Physics-III (Physical Properties of Solid)	CC-1120D	2019-20	1. Defects in crystals	1. Transport Properties of Metals	1. Phonons, Plasmons, Polaritons, and Polarons
16.	Solid State Physics-IV (Energy Conversion and Storage Devices)	CC-1121D	2019-20	1. Solar Photovoltaics		2. Supercapacitors and Batteries 3. Perovskite and Organic Solar cell

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