

Course Structure
B.Voc. Solar Energy
(1st, 2nd, 3rd, and 4th Semesters)

1st Semester

Department	Program	Semester	Year	Course Code	Course Name	Course Type	Course Category	Max Credits (Major)	Max Marks (Major Exam)	Maximum Credits (Internal Assessment)	Maximum Marks (Internal Assessment)	Availability of Course
Physics	B. Voc. (Solar Energy)	1 st Semester	1 st Year	24-PHY-C-131	Basic Semiconductor Electronics & Electrical Circuits	Major	Theory	3	60		40	Limited to Program Students Only
Physics	B. Voc. (Solar Energy)	1 st Semester	1 st Year	24-PHY-C-132	Solar Radiation, Thermal Conversion: Design and Installation – I	Major	Theory	3	60		40	Limited to Program Students Only
Physics	B. Voc. (Solar Energy)	1 st Semester	1 st Year	24-PHY-C-133	Semiconductor & Digital Electronics Lab.	Major	Practical	2	50		50	Limited to Program Students Only
Physics	B. Voc. (Solar Energy)	1 st Semester	1 st Year	24-PHY-M-134	Solar Radiation, Thermal Conversion: Design and Installation – I	Minor	Theory	3	60		40	Open to All
Physics	B. Voc. (Solar Energy)	1 st Semester	1 st Year	24-PHY-M-135	Semiconductor & Digital Electronics Lab.	Minor	Practical	1	25		25	Open to All

Physics	B. Voc. (Solar Energy)	1 st Semester	1 st Year	24- PHY- M-136	Basic Calculus-I	Minor	Theory	4	60		40	Open to All
Physics	B. Voc. (Solar Energy)	1 st Semester	1 st Year	24- PHY- T-137	Renewable Energy and Storage	Multidisciplinary	Theory	3	60		40	Open to All
Physics	B. Voc. (Solar Energy)	1 st Semester	1 st Year	24- PHY- S-138	Basics of Solar PV Systems	SEC	Theory	3	60		40	Open to All
Physics	B. Voc. (Solar Energy)	1 st Semester	1 st Year	24- PHY- V-139	Importance and applications of Solar Energy Devices	VAC	Theory	2	30		20	Open to All

2nd Semester

Department	Program	Semester	Year	Course Code	Course Name	Course Type	Course Category	Max Credits (Major)	Max Marks (Major Exam)	Maximum Credits (Internal Assessment)	Maximum Marks (Internal Assessment)	Availability of Course
Physics	B. Voc. (Solar Energy)	2 nd Semester	1 st Year	24-PHY-C-181	Heat, Thermodynamics & Mass Transfer	Major	Theory	3	60		40	Limited to Program Students Only
Physics	B. Voc. (Solar Energy)	2 nd Semester	1 st Year	24-PHY-C-182	Solar Radiation, Thermal Conversion: Design and Installation – II	Major	Theory	3	60		40	Limited to Program Students Only
Physics	B. Voc. (Solar Energy)	2 nd Semester	1 st Year	24-PHY-C-183	Thermal Lab.	Major	Practical	2	50		50	Limited to Program Students Only
Physics	B. Voc. (Solar Energy)	2 nd Semester	1 st Year	24-PHY-M-184	Solar Radiation, Thermal Conversion: Design and Installation – II	Minor	Theory	3	60		40	Open to All
Physics	B. Voc. (Solar Energy)	2 nd Semester	1 st Year	24-PHY-M-185	Thermal Lab.	Minor	Practical	1	25		25	Open to All
Physics	B. Voc. (Solar Energy)	2 nd Semester	1 st Year	24-PHY-M-186	Basic Calculus-II	Minor	Theory	4	60		40	Open to All
Physics	B. Voc. (Solar Energy)	2 nd Semester	1 st Year	24-PHY-T-187	Fundamentals of Safety & Protective Equipments	Multidisciplinary	Theory	3	60		40	Open to All

Physics	B. Voc. (Solar Energy)	2 nd Semeste r	1 st Year	24- PHY- S-188	Basics of Solar Thermal Systems	SEC	Theory	3	60		40	Open to All
Physics	B. Voc. (Solar Energy)	2 nd Semeste r	1 st Year	24- PHY- V-189	AutoCAD Lab.	VAC	Practical	2	50		50	Open to All

3rd Semester

Department	Program	Semester	Year	Course Code	Course Name	Course Type	Course Category	Max Credits (Major)	Max Marks (Major Exam)	Maximum Credits (Internal Assessment)	Maximum Marks (Internal Assessment)	Availability of Course
Physics	B. Voc. (Solar Energy)	III rd Semester	2 nd Year	24-PHY-C-231	Digital Electronics	Major	Theory	3	60		40	Limited to Program Students Only
Physics	B. Voc. (Solar Energy)	III rd Semester	2 nd Year	24-PHY-C-232	Solar Photovoltaic Principles, Design	Major	Theory	3	60		40	Limited to Program Students Only
Physics	B. Voc. (Solar Energy)	III rd Semester	2 nd Year	24-PHY-C-233	Solar-Thermal Training Lab	Major	Practical	2	50		50	Limited to Program Students Only
Physics	B. Voc. (Solar Energy)	III rd Semester	2 nd Year	24-PHY-C-238	AutoCAD Lab.	Major	Practical	1	25		25	Limited to Program Students Only
Physics	B. Voc. (Solar Energy)	III rd Semester	2 nd Year	24-PHY-M-234	Characterization and Fabrication Technologies of Photovoltaic Devices	Minor	Theory	3	60		40	Open to All
Physics	B. Voc. (Solar Energy)	III rd Semester	2 nd Year	24-PHY-M-235	Basics of Solar Thermal System Lab	Minor	Practical	1	25		25	Open to All

Physics	B. Voc. (Solar Energy)	III rd Semeste r	2 nd Yea r	24- PHY- T-236	Artificial Intelligence (AI) in Solar Energy Systems	Multidisciplina ry	Theory	3	60		40	Open to All
Physics	B. Voc. (Solar Energy)	III rd Semeste r	2 nd Yea r	24- PHY- V-237	Effect of Green Energy on Environment	VAC	Theory	2	30		20	Open to All

IVth Semester

Department	Program	Semester	Year	Course Code	Course Name	Course Type	Course Category	Max Credits (Major)	Max Marks (Major Exam)	Maximum Credits (Internal Assessment)	Maximum Marks (Internal Assessment)	Availability of Course
Physics	B. Voc. (Solar Energy)	IV th Semester	2 nd Year	24-PHY-C-281	Differential Equations	Major	Theory	3	60		40	Limited to Program Students Only
Physics	B. Voc. (Solar Energy)	IV th Semester	2 nd Year	24-PHY-C-282	Power Generation Systems and Applications	Major	Theory	3	60		40	Limited to Program Students Only
Physics	B. Voc. (Solar Energy)	IV th Semester	2 nd Year	24-PHY-C-283	Semiconductor Devices and Photonics Technology	Major	Theory	3	60		40	Limited to Program Students Only
Physics	B. Voc. (Solar Energy)	IV th Semester	2 nd Year	24-PHY-C-284	Solar PV Training Lab – I	Major	Practical	3	75		75	Limited to Program Students Only
Physics	B. Voc. (Solar Energy)	IV th Semester	2 nd Year	24-PHY-M-285	Power Generation Systems and Applications	Minor	Theory	3	60		40	Open to All
Physics	B. Voc. (Solar Energy)	IV th Semester	2 nd Year	24-PHY-M-286	Solar PV Training Lab – I	Minor	Practical	1	25		25	Open to All