School of Basic Sciences:

M.Sc. Green Hydrogen Energy (2 Yrs)

SEMESTER I – Foundation Courses

Course Type	Course Title	L	T	P	C
SEMESTER I – Foundation Courses					
DSC	Hydrogen Energy Vector & Chemical Elements	4	0	0	4
DSC	Fundamentals of Green Hydrogen & Sustainability	4	0	0	4
DSC	Renewable Energy Systems & Hydrogen Economy	4	0	0	4
DSC	Materials for Hydrogen Technology	4	0	0	4
UC	Data Analytics, AI & Research Methodology for Physical and Mathematical Sciences	2	0	1	3
UC	Computational Programming	0	0	2	2
PBL	Seminar I	0	0	2	2
TOTAL		**18**	**0**	**5**	**23**

SEMESTER II – Technology Development

Course Type	Course Title	L	T	P	C
DSC	Electrochemistry & Electrolyser Systems	4	0	1	5
DSC	Conventional and Green Hydrogen Production	4	0	0	4
DSC	**Elective – I**	3	0	0	3
DSC	Water Quality, Desalination & H_2 Purification	4	0	1	5
DSC	Advanced Green Hydrogen Systems & Applications	4	0	1	5
DSC	Computer Design for Hydrogen Technologies – Lab I	0	0	2	2
PBL	Seminar II	0	0	2	2
TOTAL		**19**	**0**	**7**	**26**

🟠 **SEMESTER III – Advanced Applications**

Course Type	Course Title	L	T	P	C
🟩 **DSC**	Hydrogen Storage, Distribution & Grid Integration	4	0	0	4
🟩 **DSC**	Fuel Cells and Applications	4	0	0	4
🟩 **DSC**	Hydrogen Safety, Standards & Sustainability	4	0	0	4
🟩 **DSC**	**Elective – II**	3	0	0	3
🟩 **DSC**	Computer Design for Hydrogen Technologies – Lab II	0	0	2	2
🟦 **UC**	AI-Driven Research, Data Visualization & Professional Scientific Communication	2	0	1	3
🟪 **PBL**	Mini Project	0	0	4	4
TOTAL		**17**	**0**	**7**	**24**

🟣 **SEMESTER IV – Research & Dissertation**

Course Type	Course Title	L	T	P	C
🟪 **PBL**	Dissertation	0	0	0	12
TOTAL		**0**	**0**	**0**	**12**

⭐ **ELECTIVE – I BASKET**

Course Type	Course Title	L	T	P	C
🟩 **DSC**	Simulation & Modeling for Hydrogen Energy Systems	3	0	0	3
🟩 **DSC**	Green Hydrogen Policy, ESG & Global Frameworks	3	0	0	3

⭐ **ELECTIVE – II BASKET**

Course Type	Course Title	L	T	P	C
🟩 **DSC**	Automation, IoT & AI in Hydrogen Infrastructure	3	0	0	3
🟩 **DSC**	Economics of Hydrogen & Carbon Pricing Mechanisms	3	0	0	3
🎓 PROGRAMME TOTAL					
	Total	62	0	15	85

Legend

DSC – Discipline Specific Course UC – University Core Course PBL – Project Based Learning