



JECRCTM
UNIVERSITY
BUILD YOUR WORLD

School of Pure and Applied Sciences

Course Structure and Syllabi

M. Sc. (Physics)

Academic Programmes: 2021-2023

Credit Scheme (Category wise)						
Course(s)	Foundation	Core	Specialized	Interdisciplinary	General	Total Credits
Credits	22	28	44	-	-	94

Credit Scheme (Semester wise)					
Semester	First	Second	Third	Fourth	Total Credits
Credits	22	22	22	28	94

Dr. Praveen Kumar

(Prof. Y.K.V. Jay)

Chaudhary
(Dr. Chaudan Joshi)

Neha
(Dr. Nishant Gaur)

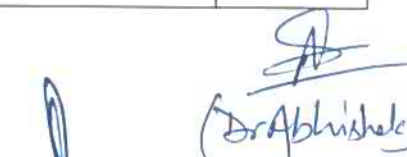
Dr. Abhishek Sharma

Course Structure: M. Sc. Physics

SEMESTER – I				Category
Code	Title of Course	Contact Hours	Credits	
MPH001B	Classical Mechanics	3L-1T	4	F
MPH002B	Quantum Mechanics-I	3L-1T	4	F
MPH003B	Classical Electrodynamics-I	3L-1T	4	F
MPH004B	Mathematical Physics	3L-1T	4	F
MPH005B	Classic Experiments in Physics (Ten Great Experiments)	18 Hours	6	F
Total Credits			22	
SEMESTER – II				
MPH006B	Statistical Mechanics	3L-1T	4	C
MPH007B	Quantum Mechanics-II	3L-1T	4	C
MPH008B	Electrodynamics-II	3L-1T	4	C
MPH009B	Computational Physics	3L-1T	4	S
MPH010B	Advanced Physics Lab	18 Hours	6	S
Total Credits			22	
SEMESTER – III				
MPH011B	Nuclear Physics	3L-1T	4	C
MPH012B	Quantum Mechanics-III (Relativistic Quantum Mechanics)	3L-1T	4	C
MPH013B	Advanced Solid State Physics	3L-1T	4	C
MPH014B	Solar Energy: Alternative Sources of Energy	3L-1T	4	S
MPH015B	Nuclear Physics Lab	18 Hours	6	S
Total Credits			22	
SEMESTER – IV				
MPH016B	Quantum Field Theory	3L-1T	4	S
MPH017B	Instrumentation Techniques			
	Elective-1	3L-1T	4	S
	Elective-2	3L-1T	4	S
MPH031B	Project Work at any University/ Academic Inst./ Research Lab		12	S
MPH032B	Seminar (Presentation of Project Work)		4	C
Total Credits			28	
Total Credits of All Four Semesters			94	
A student has to opt one of the two papers viz., MPH0160A or MPH0170A.				
Student has to opt a pair of elective papers from one of the groups in the prescribed list.				


 (Prof. Y. K. Vijay)


Chaudhari
 (Dr. Chandan Joshi)
 Naur
 (Dr. Nishant Naur)


 (Dr. Anil Kumar Shrivastava)
 Dr. Anil Kumar Shrivastava

LIST OF ELECTIVE COURSES OFFERED IN IV SEMESTER

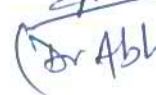
Group	Course Code	Course/Paper
Group-1	MPH018B	General Theory of Relativity and Cosmology
	MPH019B	Astrophysics
Group-2	MPH020B	Ionospheric Physics
	MPH021B	Atmospheric Physics and Weather Science
Group-3	MPH022B	Particle Physics-I
	MPH023B	Particle Physics-II
Group-4	MPH024B	Condensed Matter Physics-I
	MPH025B	Condensed Matter Physics-II
Group-5	MPH026B	Digital Electronics
	MPH027B	Microwave Electronics


(Prof. Y.K. Vijay)


Dr. Pramanand

Chandau Joshi
(Dr. Chandan Joshi)

Naur
(Dr. Nishant Naur)


(Dr. Abhishek Sharma)