HEMCHANDYADAV VISHWAVIDYALAYA, DURG (C.G.)

Website -www.durguniversity.ac.in, Email - durguniversity@gmail.com

SCHEME OF EXAMINATION
&
SYLLABUS
of
M.Sc. (Physics) Semester Exam

UNDER

FACULTY OF SCIENCE

Session 2021-22

(Approved by Board of Studies)
Effective from June 2021

HEMCHAND YADAV VISHWAVIDYALAYA, DURG (C.G.)

Syllabus for M.Sc. Physics (Semester System)

Semester – I (2021-2022)

Paper – I : Mathematical Physics
Paper – II : Classical Mechanics
Paper – III : Electrodynamics & Plasma Physics
Paper – IV : Electronics
Laboratory Course I-A : General & Optics
Laboratory Course I-B : Electronics

Semester – II (2021-2022)

Paper – I : Quantum Mechanics - I
Paper – II : Statistical Mechanics
Paper – III : Electronic & Photonic Devices and Optical Modulators
Paper – IV : Computational Methods & Programming
Laboratory Course I-A : Numerical Analysis & Computer Programming
Laboratory Course I-B : Digital Electronics &Microprocessor

Semester – III (2021-2022)

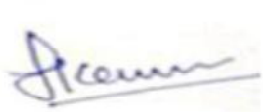
Paper – I : Quantum Mechanics - II
Paper – II : Atomic & Molecular Physics
Paper – III : Solid State Physics - I
Paper – IV : (A) Astronomy & Astrophysics - I
(B) Electronics (Communication) - I
(C) Physics of Nano-material - I
(D) Space Physics - I
Laboratory Course III-A : Material Science & General
Laboratory Course III-B : Astronomy & Astrophysics **OR**
Electronics (Communication **OR**
Physics of Nano-material **OR**
Space Physics

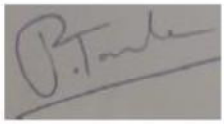
Semester – IV (2021-2022)

Paper – I : Nuclear & Particle Physics
Paper – II : Laser Physics and Applications
Paper – III : Solid State Physics - II
Paper – IV : (A) Astronomy & Astrophysics - II
(B) Electronics (Communication) - II
(C) Physics of Nano-material - II
(D) Space Physics - II

Project Work

The Syllabus for M.Sc. Physics (Semester System) is hereby approved by the members of the Board of Studies.





M. Sc. - PHYSICS

M.Sc. in Physics is a full time 2-year (4-semesters course). There will be four theory papers, and two laboratory courses/project in each semester. In each semester, there will be two internal examinations/assessments. Semester-wise course structure along with distribution of marks is given below:

Semester I

Name of the Paper	Marks					Credits
	Theory		Internal		Total	
	Max	Min	Max	Min		
1. Mathematical Physics	80	16	20	04	100	4
2. Classical Mechanics	80	16	20	04	100	4
3. Electrodynamics & Plasma Physics	80	16	20	04	100	4
4. Electronics	80	16	20	04	100	4
A : General & Optics	-		-		100	2
Laboratory Course I-B : Electronics	-		-		100	2
Total Marks					**600**	**20**

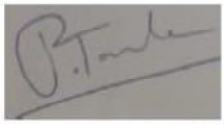
Total Marks for Semester I = 600 & Credit = 20

Semester II

Name of the Paper	Marks					Credits
	Theory		Internal		Total	
	Max	Min	Max	Min		
1. Quantum Mechanics-I	80	16	20	04	100	4
2. Statistical Mechanics	80	16	20	04	100	4
3. Electronic & Photonic Devices and Optical Modulators	80	16	20	04	100	4
4. Computational Methods & Programming	80	16	20	04	100	4
Laboratory Course II-A : Numerical Analysis & Computer Programming	-		-		100	2
Laboratory Course II-B : Digital Electronics & Microprocessor	-		-		100	2
Total Marks					**600**	**20**

Total Marks for Semester II = 600 & Credit = 2





Semester III

Name of the Paper	Marks					Credits
	Theory		Internal		Total	
	Max	Min	Max	Min		
1. Quantum Mechanics-II	80	16	20	04	100	4
2. Atomic & Molecular Physics	80	16	20	04	100	4
3. Solid State Physics-I	80	16	20	04	100	4
4. (A) Astronomy & Astrophysics-I (B) Electronics (Communication)-I (C) Physics of Nano-material-I (D) Space Physics-I	80	16	20	04	100	4
Laboratory Course III-A Materials Science & General	-		-		100	2
Laboratory Course III-B : Astronomy & Astrophysics **OR** : Electronics (Communication) **OR** : Physics of Nano-material **OR** : Space Physics	-		-		100	2
Total Marks					**600**	**20**

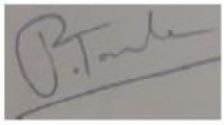
Total Marks for Semester III = 600 & Credit = 20

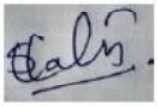
Semester IV

Name of the Paper	Marks					Credits
	Theory		Internal		Total	
	Max	Min	Max	Min		
1. Nuclear & Particle Physics	80	16	20	04	100	4
2. Laser Physics and Applications	80	16	20	04	100	4
3. Solid State Physics -II	80	16	20	04	100	4
4. (A) Astronomy &Astrophysics-II (B) Electronics(Communication)-II (C) Physics of Nano-material-II (D) Space Physics-II	80	16	20	04	100	4
Project Work	-		-		200	4
Total Marks					**600**	**20**

Total Marks for Semester IV = 600 & Credit = 20







In Each Semester

MAXIMUM MARKS TOTAL	PASS PER TH.	PR.
600	36	36

In semester IV, Project work in Solid State Physics/ Astronomy & Astrophysics/ Electronics/ Physics of Nano-materials/ Space Physics will lead to specialization in the respective area. It will be primarily based on research oriented topics. On completion of the project, student will submit project report in the form of dissertation which will be examined by an external examiner. The examination of project work shall consist of (a) Presentation and (b) comprehensive viva-voce.

Marks-distribution for Laboratory Courses and Project Work:

(a) Laboratory courses (Semesters I-III):

Sessional : 20Marks
Viva : 20Marks
Experiment : 60Marks

(b) Project Work (Semester IV):

Report–Dissertation : 60 Marks
Presentation : 100 Marks
Comprehensive viva-voce : 20 Marks Internal assessment : 20 Marks

Note: Paper IV of both Semesters III and IV is a major elective course. Student has to opt for any one of the courses: (A) or (B) or (C) or (D). The commencement of any one of the major elective paper is subjected to the availability of basic infrastructural facilities viz. expert faculty, laboratory etc.