



# SRI DHARMASTHALA MANJUNATHESHWARA COLLEGE (AUTONOMOUS)

Re-Accredited by NAAC at A++ Grade

UJIRE - 574 240

## TEACHER'S WORK DIARY

NAME : RAGHAVENDRA S.

DESIGNATION : Associate Professor & Head

DEPARTMENT : Physics (PG)

ACADEMIC YEAR : 2023 - 2024

## PERSONAL PROFILE

NAME : *Raghavendra S.*  
DESIGNATION : *Associate Professor*  
DEPARTMENT : *PG Physics*  
RESIDENTIAL ADDRESS :  
PHONE NUMBER : (R) (O)  
CELL NUMBER :  
e-mail ID : *raghavendras @ sdmcyire. in*

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### COLLEGE MOTTO

सम्यग् दर्शनं ज्ञानं चारित्र्याणी

### COLLEGE VISION

- ❖ Empowerment through competency development with ethical foundation.

### COLLEGE MISSION

- ❖ Providing infrastructural facilities to meet the contemporary needs.
- ❖ Inculcating the spirit of Inquiry.
- ❖ Adopting learner centered approach.
- ❖ Enhancing teaching learning and evaluation through effective ICT use.
- ❖ Practicing fair and just methods of assessment and evaluation.
- ❖ Enhancing growth opportunities for employability.
- ❖ Sustaining transparency in institutional governance.
- ❖ Fostering value practices and social responsibility.
- ❖ Focusing on continuous improvement through comprehensive feedback.

### QUALITY POLICY

- ❖ We will practice participatory teaching learning methods for empowering students.
- ❖ We will optimally use ICT for better learning experience.
- ❖ We will continuously upgrade our knowledge and skills.
- ❖ We will make all efforts to provide a strong value base.
- ❖ We will firmly believe that national interest is more important than personal accomplishments.

**DEPARTMENT VISION :**

- \* Empowering higher education in Physics.
- \* Training quality teachers/researchers.
- \* Provide a platform for all-round growth & development of students.

**DEPARTMENT MISSION :**

- \* catering to Master-degree level Physics education in this rural set-up.
- \* Developing professional Physics teachers & researchers.

**DETAILS OF 40 HOURS OF WEEKLY WORKLOAD OF THE STAFF**

Sl.No.	TASKS	WORKLOAD (without Practical)	WORKLOAD (with Practical)
1.	Teaching	16 hrs.	16 hrs.
2.	Practical		04 hrs.
3.	Tests / Exams	02 hrs.	02 hrs.
4.	Tutorial Classes	04 hrs.	02 hrs.
5.	Class Preparation / Lab Setting	10 hrs.	10 hrs.
6.	Co-Curricular Activity	04 hrs.	02 hrs.
7.	Administrative Work	04 hrs.	04 hrs.

**TERM - I**  
**TEACHING TIME TABLE**  
**SEMESTER - I / III / V**

DAY	PERIODS							
	I 9:15-10:10	II 10:15-11:10	III 11:15-12:10	IV 12:15-1:10	V 1:15-2:05	VI 2:10-3:05	VII 3:10-4:05	VIII 4:10-5:05
MON	I sem PHP 405					I sem PHH 401		
TUE		III sem PHH 502				IV sem PHP 508		
WED	I sem PHH 403			III sem PHH 502		III sem PHP 508		
THU	I sem PHP 405					I sem PHH 402		
FRI				III sem PHH 502				
SAT		I sem PHH 402						

TOTAL WORKLOAD : 23 hrs per week

THEORY : 11 hrs per week

PRACTICAL : 6 + 6 = 12 hrs per week

Sl.No.	Class	Subject / Paper	Hours per Week	No. of Students
1.	III sem	PHH 502: Thermodynamics & statistical Physics	04	26
2.	III sem	PHP 508/510 - CMP Lab	06	16
3.	I sem	PHH 401: Methods of Mathematical Physics - I	02	15
4.	I sem	PHH 402: Quantum Mechanics - I	04	15
5.	I sem	PHH 403: Classical Mechanics	01	15
6.	I sem	PHP 405 - Physics Practical - I (Lab)	06	7 + 8 = 15



Signature of the  
STAFF



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H.O.D.



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DEAN / PRINCIPAL

## ASSIGNMENTS FOR THE ACADEMIC YEAR

### 1. Co-Curricular :

1. Proposed Research / Projects undertaken :

*CO-investigator in DST-funded Project - CURIE  
with PI - Dr. Prarthana J. (Biotech Dept.)*

2. Students' Research Projects :

3. Mentorship :  
(Class/Roll No.s)

*\* II MSc - 6 students (also project students)  
\* I MSc - 3 students.*

### 2. Extra Curricular :

1. Association in Charge :

2. Committee Membership :  
(Dept./College Level)

*(i) BoE/BoS in-charge - Dept.  
(ii) Library & Learning Resources  
Committee (PG)  
(iii) Perspective Plan - Research Publication  
& Project Proposal committee : R & D Cell  
(iv) NAAC Criterion - IV - Member  
(Infrastructure & Learning Resources)*

## UNITWISE LESSON PLAN

Academic Year	2023-24	Programme	MSc	Semester	FIRST
				Department	

### PHH 401 Methods of Mathematical Physics I

Unit(s)	Contents	Objectives & Outcomes	Teaching activities	Review of outcomes	References
Unit III	Partial differential equations	<p><b>Objectives:</b></p> <ol style="list-style-type: none"> <li>To acquaint the students with various mathematical techniques used in Physics</li> <li>To familiarize the notations, symbols &amp; terminologies associated with (Mathematical) Physics</li> <li>To teach the mathematical principles involved in solving problems in Physics</li> <li>To acclimatize the various applications of mathematical methods of Physics</li> </ol> <p><b>Outcomes:</b></p> <ol style="list-style-type: none"> <li>Understand that mathematics can be used as an effective tool in solving physical problems.</li> <li>Appreciate the utility and ingenuity of various mathematical theorems when applied to physical principles.</li> <li>Be familiar with the abstraction of physical concepts when codified in mathematical language.</li> <li>Understand and apply mathematical formulation in various branches of Physics</li> </ol>	Class discussion, seminars on related topics, review of recent advances.	Tests & assignments, class questions & discussion	<ol style="list-style-type: none"> <li>Arfken &amp; Weber, 'Mathematical Methods for Physicists' (Academic Press)</li> <li>Harper C, 'Introduction to Mathematical Physics' (PHI, 1978)</li> <li>Harry Lass, 'Vector and Tensor Analysis' (McGraw Hill, 1950)</li> <li>ML Boas, 'Mathematical Methods in the Physical sciences' (John Wiley)</li> <li>Spiegel M R, 'Vector Analysis' (Schaum series, McGraw Hill, 1997)</li> <li>Chattopadhyaya P K, 'Mathematical Physics' (Wiley Eastern, 1990)</li> <li>Ayres F, 'Differential Equations' (Schaum series, McGraw Hill)</li> <li>Sneddon I A, 'Elementary Partial Differential Equations' (McGraw Hill)</li> <li>Bose A K and Joshi, 'Methods of Mathematical Physics' (McGraw Hill)</li> <li>Kreysig E, 'Advanced Engineering Mathematics' (Wiley Eastern, 1969)</li> <li>Mathews &amp; Walker, 'Mathematical Methods of Physics' (W A Benjamin).</li> <li>Joglekar.S, 'Mathematical Physics Vol 1&amp;2' (Universities Press, 2005).</li> <li>Shankar Rao, "Partial Differential Equations" (PHI Learning Pvt. Ltd.).</li> </ol>
Unit IV	Special Functions	<p>Beta and gamma functions, their properties and applications. Power series method for solving ordinary differential equations. Legendre differential equation and solutions, Legendre</p>	Class discussion, seminars on related topics, review of recent advances.	Tests & assignments, class questions & discussion	<ol style="list-style-type: none"> <li>Arfken &amp; Weber, 'Mathematical Methods for Physicists' (Academic Press)</li> <li>Harper C, 'Introduction to Mathematical Physics' (PHI, 1978)</li> <li>Harry Lass, 'Vector and Tensor Analysis' (McGraw Hill, 1950)</li> <li>ML Boas, 'Mathematical Methods in the Physical sciences' (John</li> </ol>

## DAILY RECORD

Date: 16-12-'23

Day: Sat

Hour	Class	Topics covered / Activities Conducted (Online / Offline Classes)
I	I sem	PHH 402
II		Gen. uncertainty, meaning & interpretation Ehrenfest theorem & implication.
III		
IV		
V	III sem	PHH502 - SPECIAL CLASS.
VI		No fluctuations in quantum gases, Random walk mot. - Brownian motion
VII		
VIII		



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Date: 18-12-'23

Day: Mon

Hour	Class	Topics covered / Activities Conducted (Online / Offline Classes)
I	I sem	PHP 405
II		Gen Physics Lab - Practical B1 Repetition cycle, record correction etc:-
III		
IV		
V	I sem	PHH 401
VI		Bound & scattering states, delta func & soln for Dirac delta pot.
VII	4:15 pm onwards	Staff Association meeting (@ PG Sem. Hall-2)
VIII		



Signature of the Staff



Signature of the H.O.D.

## CERTIFICATE

(To be entered at the end of Semester)

*Certified that*

- 1) I have engaged the classes as per the time table for the I / III/~~VI~~ Semester 20.23-24
- 2) I have completed all the portions as per the lesson plan during the Semester.
- 3) I have engaged special / ~~tutorial~~ classes during this semester itself to complete the portions which could not be covered due to loss of class hours.
- 4) I have made all the necessary preparations for the classes, assisted in the administration, conducted class tests, conducted tutorial classes and co-curricular activities as per the schedule.

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STAFF

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H.O.D.

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DEAN /PRINCIPAL

## CERTIFICATE

(To be entered at the end of Semester)

*Certified that*

- 1) I have engaged the classes as per the time table for the II/ IV/~~VI~~ Semester 20.23-24
- 2) I have completed all the portions as per the lesson plan during the Semester.
- 3) I have engaged special / ~~tutorial~~ classes during this semester itself to complete the portions which could not be covered due to loss of class hours.
- 4) I have made all the necessary preparations for the classes, assisted in the administration, conducted class tests, conducted tutorial classes and co-curricular activities as per the schedule.

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