



# GOVERNMENT DEGREE COLLEGE – PALONCHA

BHADRADRI KOTHAGUDEM DISTRICT, TELANGANA - 507115

(Affiliated to Kakatiya University, Warangal)



## DEPARTMENT OF PHYSICS

### TITLE OF THE PROGRAM:

Free coaching of Physics for Post Graduation entrance examination - 2021.( 30 Hours)

### DATE OF THE EVENT:

15.09.2021

### RESOURCE PERSON/ CHIEF GUEST:

1. Sri. S.Rambabu, Assistant Professor of Physics  
Government Degree College, Paloncha
2. Sri. B.Ravi Kumar, Assistant Professor of Physics  
SR& BGNR Government Degree College, Yellandu
3. Sri. K. Kiran Kumar, Assistant Professor of  
Physics, Government Degree College, Yellandu ✓

### OBJECTIVES OF THE PROGRAM:

Geographically this college is located in Tribal area and the students studying in this college are socially and economically weaker sections of the society. Most of the students under B.Sc Physical Sciences stream are interested to pursue post graduation in Physics. To guide and prepare the students about entrance examinations, Department of Physics & Career Guidance Cell organised a 30 hours (3 hours a day) free coaching to the student aspirants to join in Post Graduation course of Physics.

### BRIEF DESCRIPTION & SCHEDULE OF THE PROGRAM:

Department of Physics & Career Guidance Cell organised a free coaching to the student aspirants to join in Post Graduation course of Physics. In view of the pandemic corona time, coaching to the students is given in online mode through zoom app. To give extensive and qualitative coaching to the students in short time, another two resource persons are invited from other colleges. Sri B. Ravi Kumar, Assistant Professor of Physics & Sri K. Kiran Kumar, Assistant professor of Physics voluntarily participated in the program and given extensive coaching to the students.

Program is scheduled for 10 days from 15.09.2021 to 24.09.2021 , 3 hours per day and every faculty given 1 hour lecture every day. The syllabus for entrance examination is scheduled among three resource persons for through coaching in 10 days.

Topic Name	Resource Person	Number of Hours
1. Mechanics, Waves & Oscillations	K.Kiran Kumar	8 hours
2. Heat, Thermodynamics & Optics	S.Rambabu	7 hours
3. Electricity & Electromagnetism	B.Ravi Kumar	8 hours
4. Modern Physics & Electronics	S.Rambabu	7 hours

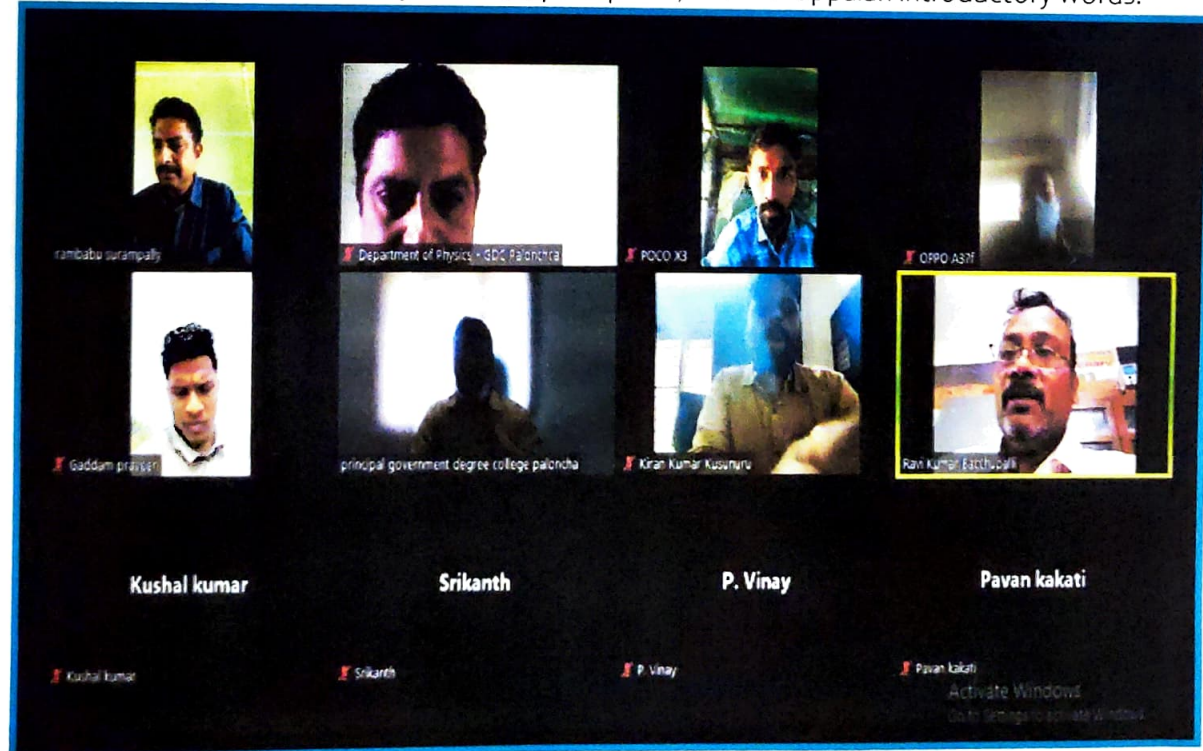
**Total: 30 hours**

#### STUDENTS REGISTERED FOR THE COACHING:

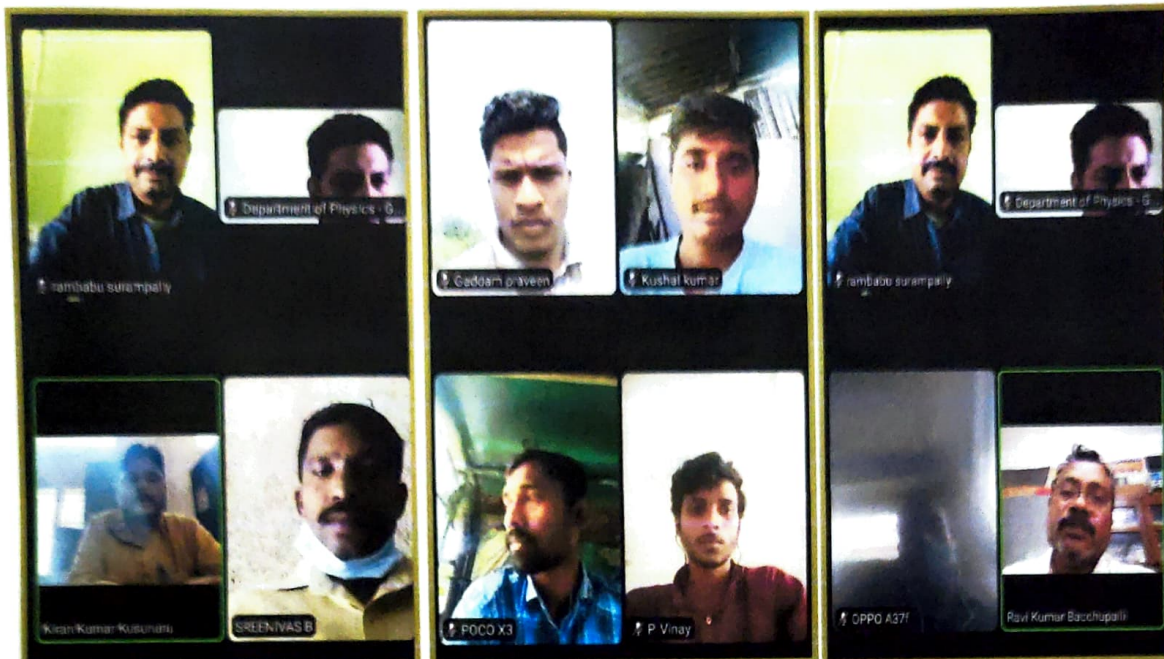
S.No	Name of the student	Course & Group
1	Kunakuntla Srikanth	B.Sc - MPCS
2	Gaddam Praveen	B.Sc - MPC
3	Nimmala Satya Anil Kumar	B.Sc - MPCS
4	Chennu Sai Ram	B.Sc - MPCS
5	Kakati Pavan	B.Sc - MPC
6	Mittapally Upendar	B.Sc - MPC
7	Batulla Durga Prasad	B.Sc - MPC
8	Vemula Teja	B.Sc - MPCS
9	Devalla Chinni Krishna	B.Sc - MPCS
10	Badavath Madhu	B.Sc - MPCS
11	Azmeera Kushal Kumar	B.Sc - MPCS
12	Pamathi Vinay	B.Sc - MPCS

#### INAUGURAL SESSION OF THE PROGRAM:

Program is inaugurated on 15.09.2021 with principal Dr., Y. Chinnappaiah introductory words.







Deray of current in LR circuit  
 LE switches supply from

$E = 0$ , when Key is open  
 &  $Batt \rightarrow G = 0$

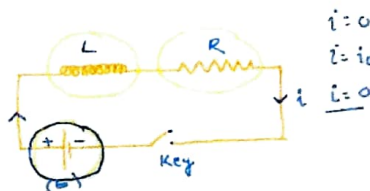
$$E = iR + L \frac{di}{dt}$$

$$0 = iR + L \frac{di}{dt}$$

$$-L \frac{di}{dt} = iR$$

$$-\frac{di}{i} = \frac{R}{L} dt$$

$$\frac{di}{i} = -\frac{R}{L} dt$$



$$i = 0$$

$$i = i_0$$

$$i = 0$$

$$i = i_0 \left(1 - e^{-\frac{R}{L}t}\right)$$

Growth

$$E = \check{V}_L + \check{V}_R + \check{V}_C$$

$$= L \frac{di}{dt} + iR + \frac{q}{C}$$

$$E = V_L + V_R$$

$$E = L \frac{di}{dt} + iR$$

Integrating on both sides  
 $\int_{i_0}^i \frac{di}{i} = \int_0^t -\frac{R}{L} dt$

$$\log i = -\frac{R}{L} t + C$$

$$\log i_0 = -\frac{R}{L} \times 0 + C$$

$$\log i = -\frac{R}{L} t + \log i_0$$

$$\text{when } t=0 \Rightarrow i=i_0$$

$$\log i_0 = -\frac{R}{L} \times 0 + C$$

$$\log i_0 = C$$

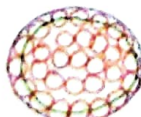
$$\log i = -\frac{R}{L} t + \log i_0$$

balli rambabu's screen

Surface energy

The nucleus consists of the nucleons are loosely bounded with nucleons. Hence Binding energy of these nucleons, which are close to surface is less

$$E_s = -a_s A^{2/3}$$



Coulomb energy

$$E_c = -a_c \frac{Z(Z-1)}{A^{1/3}}$$

Asymmetry energy

$$E_a = -a_a \frac{(A-2Z)^2}{A}$$

$$E_c = \frac{1}{2} \times \frac{1}{4\pi\epsilon_0} \times \frac{q^2}{r}$$

$Z = 6 \rightarrow \text{protons}$   
 $A = 12 \rightarrow \text{Nucleons}$   
 $(A-Z) = 6 \rightarrow \text{neutrons}$

7th 15 8

Nuclear

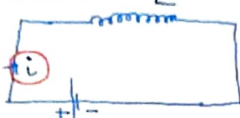
1) A dc battery connected to a Resistor  
 వీ dc ఫీల్డ్, సర్క్యూట్ లో కొనసాగుతుంది

$$E = V = iR$$



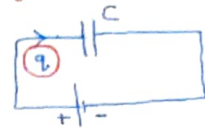
2) A dc battery is connected to a Inductor  
 వీ ఫీల్డ్, సర్క్యూట్ లో కొనసాగుతుంది

$$E = L \frac{di}{dt}$$

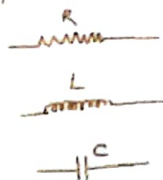


E is emf induced in Inductor.

3) A dc battery is connected to a capacitor  
 వీ ఫీల్డ్, సర్క్యూట్ లో కొనసాగుతుంది



$$E = \frac{q}{C}$$



1. LR circuit
  2. RC circuit
  3. LCR circuit
- Series parallel combination

palli rambabu's screen

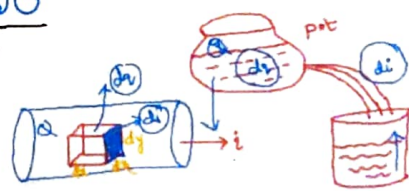
## 20:36 CONTINUITY EQUATION

### సాంతత్య సమీకరణం

conservation of matter  
 పదార్థ సంరక్షణ

$$J = \frac{dQ}{dV dt}$$

charge decay per unit area in unit time  
 is called as volume charge density



ప్రమాణ వాల్యూమ్ ప్రమాణ కాలంలో పదార్థం క్షయం

$$J = \frac{dQ}{dV dt}$$

$$J \cdot d\vec{r} = \frac{dQ}{dt}$$

$$J \cdot d\vec{r} = dQ$$

$$i = \int dQ$$

$$= \int J \cdot d\vec{r}$$

But current is zero

$$i = \frac{dQ}{dt} - \frac{dQ}{dt}$$

volume current density  
 ప్రమాణ వాల్యూమ్ ప్రమాణ కాలంలో

$$\frac{dQ}{dt} = \int J \cdot d\vec{r}$$

By Gauss divergence theorem  
 గౌస్ వికలన సిద్ధాంతం ప్రకారం

$$\int J \cdot d\vec{r} = \int \nabla \cdot J \cdot dV$$

$$\int \nabla \cdot J \cdot dV = \frac{d}{dt} \int \rho \cdot dV$$

$$\int \nabla \cdot J \cdot dV = - \int \frac{\partial \rho}{\partial t} \cdot dV$$

$$\nabla \cdot J = - \frac{\partial \rho}{\partial t}$$

$$\nabla \cdot J + \frac{\partial \rho}{\partial t} = 0$$

for free space /  
 for steady current  
 స్థిర ప్రవాహం కోసం

$$\nabla \cdot J = 0$$

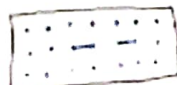
rampalli rambabu's screen

### Internal Energy

Kinetic & potential Energy

$$U = K + P \rightarrow \text{Molecular Interaction}$$

molecular collision



If Internal Energy increases, temperature increases and vice versa

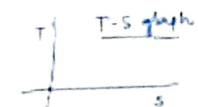
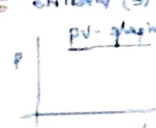
Note: Temperature of a system is due to kinetic energy of its molecules

and Temperature is independent of potential energy of its molecules.

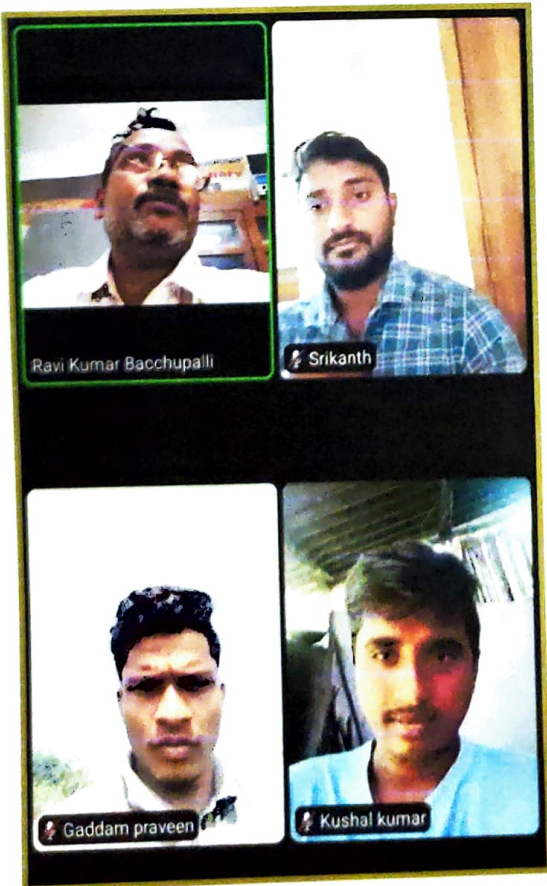
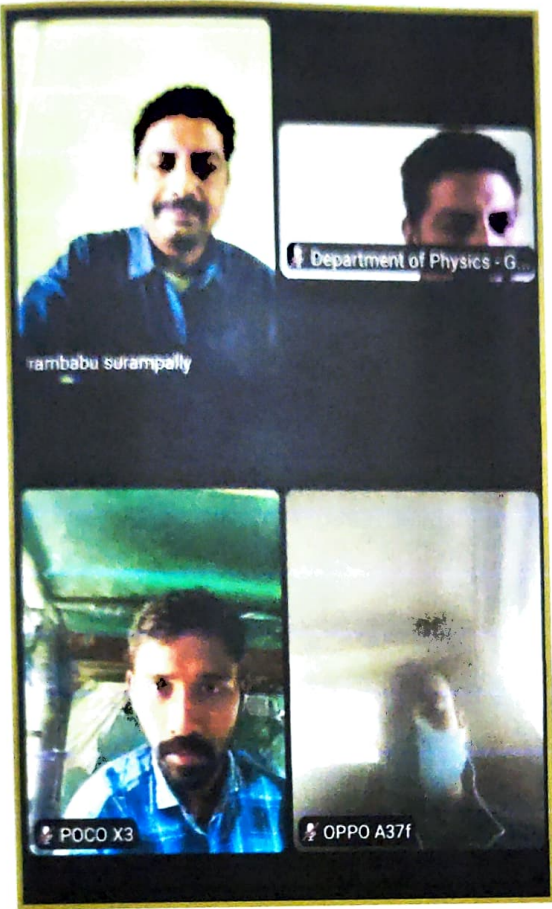
Thermodynamic Variables

1. Pressure (P)
2. Volume (V)
3. Temperature (T)
4. Internal Energy (U)
5. Entropy (S)

$n, y, d, t$









**CPGET - 2021**  
DIRECTORATE OF ADMISSIONS : OSMANIA UNIVERSITY, HYDERABAD

**RANK CARD**

Hall Ticket No. : 69033350170  
Candidate's Name : BADAVATH MADHU  
Father's Name : BADAVATH VENKATRAM  
Test Name : M.Sc. Physics

Community  
ST

Date of Birth  
02/08/1999

Marks Obtained : 32

Rank : 1690



*Handwritten Signature*  
Convener



B.madhu

**INSTRUCTIONS TO THE CANDIDATE**

1. The admissions into PG Courses offered by Osmania, Kakatiya, Telangana, Mahatma Gandhi, Palamuru, Satavahana and JNTUH Universities (in campus, constituent and affiliated colleges) will be made through a centralized web-based counseling. Further, the schedules will be available in website. The qualified candidates are advised to visit the website from time to time for further admission schedules.  
Websites: [www.ouadmissions.com](http://www.ouadmissions.com),  
[www.osmania.ac.in](http://www.osmania.ac.in) and [www.tscpget.com](http://www.tscpget.com)
2. The eligibility of the candidates is not verified / decided at the time of application and during the entrance test. The verification will be done only during the admissions. Hence, candidates are advised to ensure that they are eligible for the course/subject they are applying for admission.
3. The candidates called for certificate verification must have the following original certificates /documents to be Upload for Online Certificate Verification.
  - i. Rank Card and Hall Ticket of CPGET – 2021.
  - ii. Transfer Certificate (T.C) from the institution where the candidate has last studied.
  - iii. Degree certificate and complete memorandum





**CPGET - 2021**  
**DIRECTORATE OF ADMISSIONS : OSMANIA UNIVERSITY, HYDERABAD**

**RANK CARD**

Hall Ticket No. : 69033350210  
Candidate's Name : GADDAM PRAVEEN  
Father's Name : GADDAM SURYA NARAYANA  
Test Name : M.Sc. Physics

Community  
**ST**

Date of Birth  
**15/03/1996**

Marks Obtained : 26

Rank : 2713



*[Signature]*  
Convener



2



**CPGET - 2021**  
**DIRECTORATE OF ADMISSIONS : OSMANIA UNIVERSITY, HYDERABAD**

**RANK CARD**

Hall Ticket No. : 69033350186  
Candidate's Name : KAKATI PAVAN  
Father's Name : KAKATI NAGULU  
Test Name : M.Sc. Physics

Community  
**SC**

Date of Birth  
**12/12/2000**

Marks Obtained : 39

Rank : 621



*[Signature]*  
Convener





# CPGET - 2021

## DIRECTORATE OF ADMISSIONS : OSMANIA UNIVERSITY, HYDERABAD

### RANK CARD

Hall Ticket No. : 69033350241  
Candidate's Name : PAMARTHI VINAY  
Father's Name : PAMARTHI RAMESH  
Test Name : M.Sc. Physics

Community  
BC\_B

Date of Birth  
05/10/2000

Marks Obtained : 30  
Rank : 2163



*[Signature]*  
Convener



*[Signature]*

#### INSTRUCTIONS TO THE CANDIDATE

1. The admissions into PG Courses offered by Osmania, Kakatiya, Telangana, Mahatma Gandhi, Palamuru, Satavahana and JNTUH Universities (in campus, constituent and affiliated colleges) will be made through a centralized web-based counseling. Further, the schedules will be available in website. The qualified candidates are advised to visit the website from time to time for further admission schedules.

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[www.osmania.ac.in](http://www.osmania.ac.in) and [www.tscpget.com](http://www.tscpget.com)

2. The eligibility of the candidates is not verified / decided at the time of application and during the entrance test. The verification will be done only during the admissions. Hence, candidates are advised to ensure that they are eligible for the course/subject they are applying for admission.

3. The candidates called for certificate verification must have the following original certificates /documents to be Upload for Online Certificate Verification.

i. Rank Card and Hall Ticket of CPGET – 2021.

ii. ~~From the Certificate (M.C.) from the institution~~



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Subarnachar

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## OUTCOME OF THE PROGRAM

Twelve(12) students applied and attended CPGET-2021 ( Common entrance for all the universities in Telangana State) conducted by Osmania University, Hyderabad & Four(04) students attended CU-CET 2021 (Central Universities –Common entrance Test) conducted by NTA ( National Testing Agency).

All the students got good ranks in the Post Graduation common entrance test ( CPGET – 2021) for all the state universities for PG Courses organised by Osmania university Hyderabad. Ranks got by the students shown bellow. Results for CU-CET 2021 are awaited.

S.No	Name of the student	CPGET -2021 RANK
1	Kunakuntla Srikanth	922
2	Gaddam Praveen	2713
3	Nimmala Satya Anil Kumar	2402
4	Chennu Sai Ram	1000
5	Kakati Pavan	621
6	Mittapally Upendar	1446
7	Batulla Durga Prasad	1587
8	Vemula Teja	2121
9	Devalla Chinni Krishna	1740
10	Badavath Madhu	1690
11	Azmeera Kushal Kumar	1744
12	Pamathi Vinay	2163

### Signatures of the resource persons


1. K.Kiran Kumar 

2. S.Rambabu 

3. B.Ravi Kumar 

  
Convener of the Program

  
Head of the Department

  
Principal  
PRINCIPAL  
Govt.Degree College  
PALONCHA - 507 115  
Bhadradi Kothagudem Dt.