SIR C R REDDY COLLEGE FOR WOMEN

(Affiliated to AdikaviNannaya University,

PG ENTRANCE COACHING

For

M.Sc., (physics)

Date: 27-June-2022 to 21 -July-2022

Time: 8:30 am to 9:30 am

&

4.30pm to 5.30pm

Organized by

CAREER GUIDANCE & PLACEMENT CELL

2021-2022

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About Programme

The Career Guidance and Placement Cell at Sir CR Reddy College for Women organized PG entrance coaching classes in Mathematics,. These classes were conducted by senior faculty members who specialize in the respective subjects at the college.

Program: PG Entrance Coaching for Subject

Subjects Covered:

- M.Sc. (Physics)

Target Audience:

- III B.Sc. students aspiring for postgraduate studies (M.Sc.)
- **Duration:**
- June 27th , 2022, to July 21st , 2022 (25 days)

Time:

- 8:30 AM to 9:30 AM & 4.30PM to 5.30PM

Resource Persons:

K.SIRISHA(HOD),

M.JAYA LAKSHMI DEVI

Organized By:

- Career Guidance and Placement Cell at Sir CR Reddy College for Women

Resource Persons

Program Overview:

- Specifically designed coaching program focusing on APPGCETCET 2022 for M.Sc. aspirants.
- Conducted by seasoned faculty members from Sir CR Reddy College, each specializing in PHYSICS.
- Comprehensive curriculum comprising subject-specific lectures, problem-solving sessions, practice tests, and exam strategy workshops.
- Tailored content to acquaint students with the APPGCET exam pattern, syllabi, and effective preparation methodologies.

Benefits for III B.Sc. Students:

- Early guidance and preparation assistance for M.Sc. entrance exams.
- Exposure to exam patterns, aiding in better preparedness.
- Access to experienced faculty for subject-specific guidance and doubt resolution.
- Enhanced readiness for M.Sc. studies by initiating preparation in advance.

This coaching program aims to support B.Sc. students in their aspirations for pursuing postgraduate studies by providing structured coaching specifically aligned with the requirements of the APPGCET 2022 examination.

Learning Objectives and Learning Outcomes

Learning Objectives:

1. Subject Mastery: To facilitate a comprehensive understanding of the core concepts and subject-specific knowledge required for M.Sc. entrance exams.
2. Exam Familiarity: To familiarize students with the exam pattern, question types, and syllabi specific to NANNAYACET 2022.
3. Problem-Solving Skills: To enhance problem-solving abilities and critical thinking necessary to tackle complex questions in the entrance exams.
4. Time Management: To equip students with effective time management strategies for the exam and optimize their performance within the stipulated time frame.
5. Exam Strategy: To provide guidance on effective exam strategies, including question selection, prioritization, and efficient answering techniques.

Expected Outcomes:

1. Strong Foundation: Students are expected to build a strong foundational understanding of their respective subjects, providing a basis for advanced studies.
2. Improved Performance: Enhanced problem-solving skills and a better grasp of exam patterns can result in improved performance in mock tests and the actual entrance exam.
3. Confidence: Through regular practice and guidance, students are likely to gain confidence in handling diverse questions and scenarios during the examination.
4. Effective Preparation: Students should be better prepared to face the challenges of the entrance exams by utilizing learned strategies and subject-specific knowledge.
5. Readiness for Postgraduate Studies: The coaching program aims to prepare students adequately for the rigors of postgraduate studies in their chosen fields.

Permission Letter

Permission Letter

20-06-2022
Eluru

To
The Principal
Sir C.R.Reddy College for Women
Eluru

Subject: Request to grant permission to conduct P.G Entrance test Coaching Classes to final year students.

This is to bring to your kind notice that, Career Guidance and Placement Cell is planning to conduct P.G Entrance test Coaching Classes for interested III B.Sc/B.Com students specializing life Sciences, Mathematics, Physics, Chemistry, Commerce .

The coaching classes aim is to provide additional support and guidance to our ambitious students who aspire to excel in their respective fields and we believe that providing coaching classes with in our college will not only benefit our students but also contribute to the overall academic excellence of our institution. These classes will be conducted for about 30 days i.e., from 27th June 2022 to 21st July 2022. The duration of these classes will be from 8:30 am to 9:30 am and 4:30 pm to 5:30 pm. I kindly request your approval for this initiative, as it aligns with our commitment to fostering academic excellence and preparing our students for successful futures.

Thanking you Madam,

Permitted

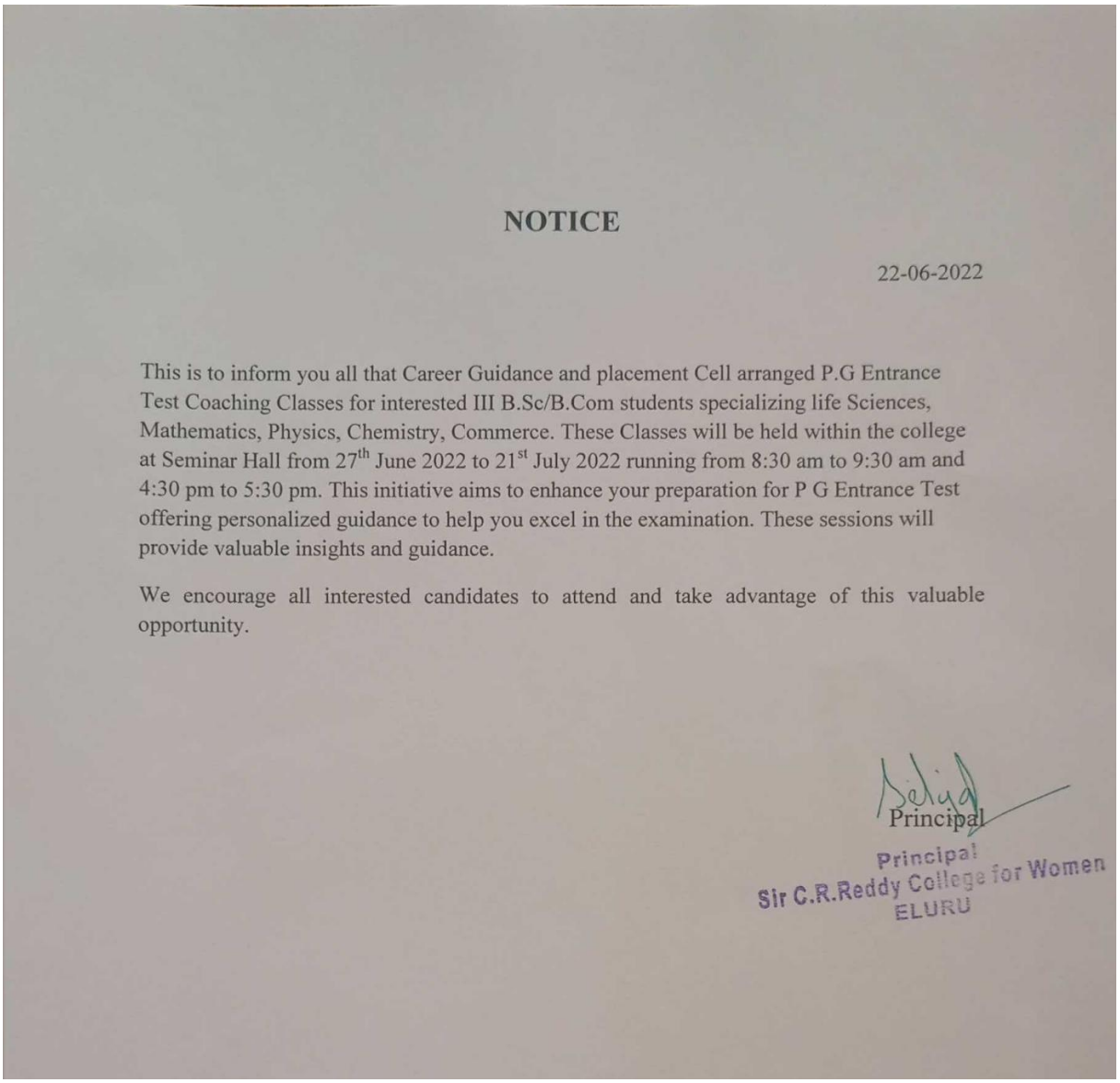
Principal
Sir C.R.Reddy College for Women
ELURU

Yours Faithfully,

(Coordinator)

Career Guidance and Placement Cell

Notice to Students



NOTICE

22-06-2022

This is to inform you all that Career Guidance and placement Cell arranged P.G Entrance Test Coaching Classes for interested III B.Sc/B.Com students specializing life Sciences, Mathematics, Physics, Chemistry, Commerce. These Classes will be held within the college at Seminar Hall from 27th June 2022 to 21st July 2022 running from 8:30 am to 9:30 am and 4:30 pm to 5:30 pm. This initiative aims to enhance your preparation for P G Entrance Test offering personalized guidance to help you excel in the examination. These sessions will provide valuable insights and guidance.

We encourage all interested candidates to attend and take advantage of this valuable opportunity.

Principal

Principal
Sir C.R.Reddy College for Women
ELURU

Course Structure

1. Thermodynamics

2. Low temperature physics

3. Quantum theory of radiation

4. Mechanics& oscillations

5. Vectors

6. Optics

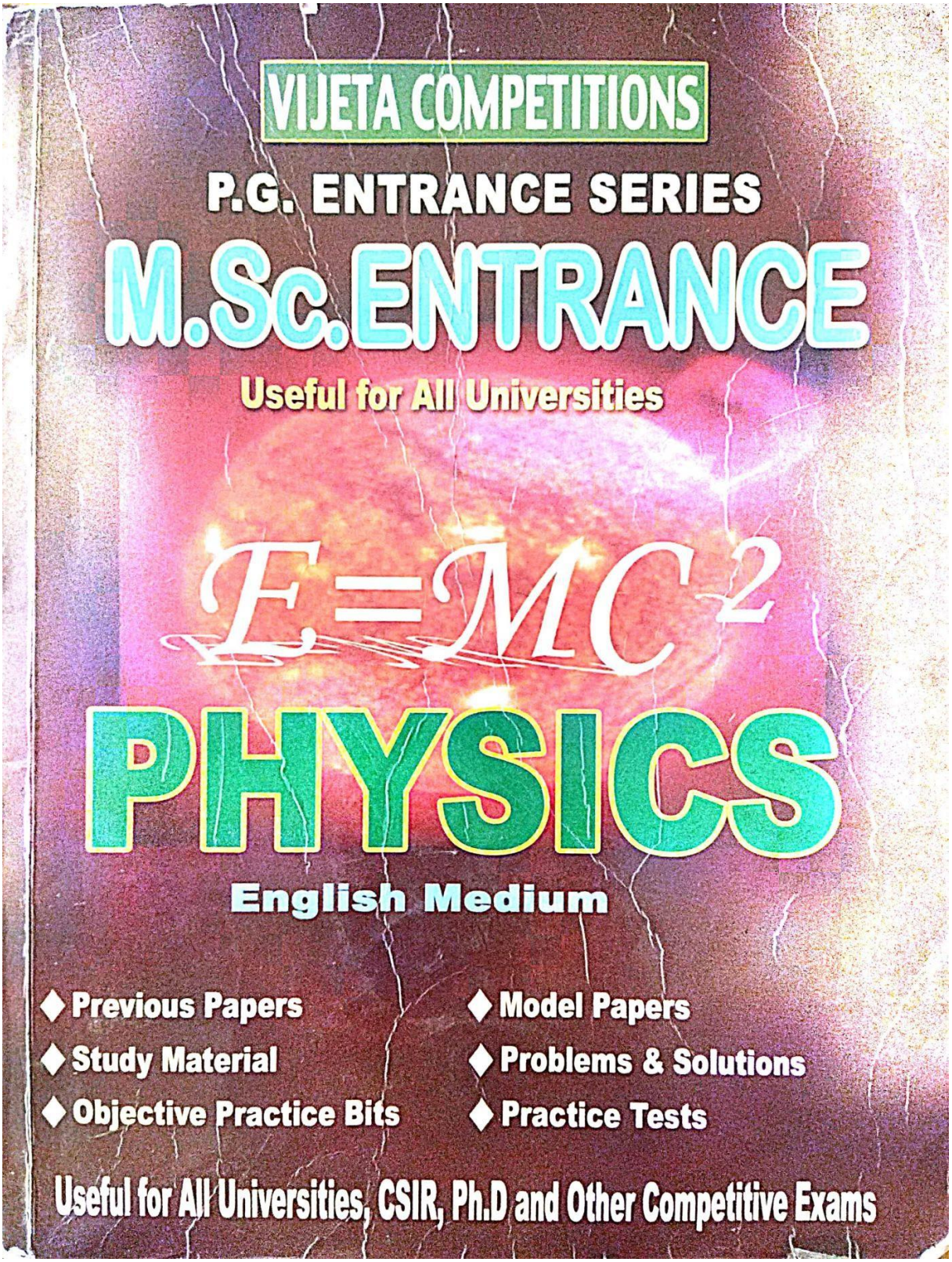
7. Electricity and Magnetism

8. Modern physics and Electronics

9. Fluid mechanics

10. Special theory of relativity

Course Material



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1.5. FLUID DYNAMICS

STUDY MATERIAL

★ The fluids can be divided into two parts depends on pressure.

1. **Liquids:** which are incompressible (volume can't change)
2. **Gases:** which are compressible (volume can change)

★ **Characteristics of fluids:**

1. Fluids can flow may be steady or non-steady.
2. Fluids flow may be rotational or inrotational.
3. Fluids flow may be compressible or incompressible.
4. Fluids flow may be viscous and nonviscous.

★ **Stream line flow:** The fluid flow is such that velocity at any point of every particle is constant in time, the flow is known as steady or stream line flow.

★ **Turbulent flow:** The flow of fluid in which velocity of all particles crossing a given point is not same and becomes disorderly or irregular, is called turbulent flow.

★ **Viscosity:** The property of a fluid by virtue of which an opposing force comes into play whenever there is a relative flow between the different layers of the fluid or liquid is called viscosity.

★ **Coefficient of Viscosity:** Coefficient of viscosity of a liquid is defined as the viscous drag acting per unit area of the layer having unit velocity gradient perpendicular to the direction of the flow.

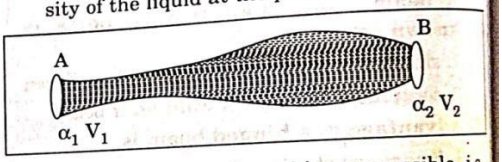
It is denoted by $\eta = {}^{F}/_{A}\frac{dV}{dn}$

Applications: Viscosity of various liquids and gases have the following applications.

1. Liquids at high viscosity are used in shock absorbers and buffers at railway stations.
2. Used to damp the motion at some instruments.
3. Used in determining the molecular weight and shape of the organic molecules.
4. Lubricants (different) are made depending upon season.

★ **Equation of continuity:** The velocity of the fluid is inversely proportional to the area of cross section i.e., larger is the cross sectional area smaller would be the velocity of flow and vice-versa.

Let α_1, V_1, and ρ_1 be the area of cross section of the tube, velocity of flow of the liquid particles and density of the liquid at point A, similarly α_2, V_2 and ρ_2 be the of cross section of the tube, velocity of flow of the liquid particles and density of the liquid at the point B.



★ The flow is steady or incompressible i.e., $\rho_1=\rho_2=\rho$. Therefore $\alpha_1 V_1 \rho_1 = \alpha_2 V_2 \rho_2$

αV= constant

Differential form of equation of continuity:

$\nabla.\vec{V}=0$

$\left[\vec{\nabla}=i\frac{d}{dx}+j\frac{d}{dy}+k\frac{d}{dz} \text{ and } \vec{V}=iV_x+jV_y+kV_z\right]$

The statement of equation of continuity for an incompressible fluid flow.

BERNOULLI'S THEOREM

★ When an incompressible and non-viscous fluid-flow in stream lined motion from one place to another, then at every point of its path.

The total energy per unit volume is constant Pressure energy + kinetic energy + potential energy = constant.

$\rho+\frac{1}{2}\rho V^2 + \rho gh = \text{constant}.$

under low pressure, the tubes and fins get cooled

★ **Applications of low temperature:**

1. Production of high Vacuum.
2. Separation of constituents of air.
3. Vapourisation calorimeters.
4. O_2 and N_2 are being produced from liquid air.
5. It is also used in manufacturing explosives.
6. The liquid O_2 is stored up in cylinders for artificial respiration.

PROBLEMS & SOLUTIONS

1. A refrigerator works under a irreversible cycle between the temperatures 300k and 400K. Calculate i) the thermal efficiency ii) the coefficient of performance.

Sol: i. Thermal efficiency $\eta = 1 - \frac{T_2}{T_1} = 1 - \frac{300}{400}$

$= 0.25$ or 25%

ii. The coefficient of performance,

$$\beta = \frac{\theta_2}{W} = \frac{T_2}{T_1 - T_2} = \frac{300}{400 - 300} = 3$$

2. For one mole of hydrogen, the Vander Waal's constants $a = 0.245 \frac{Lt^2 \times atoms}{mole^2}$; $b = 2.67 \times 10^{-2}$ lt mole^{-1}, calculate its temperature of inversion. R = 2 cal/mole K

Sol: The temperature of inversion T_i is

$$T_i = \frac{2a}{Rb}$$

$$T_i = \frac{2 \times 0.245 \times 10^{12}}{2 \times 4.2 \times 10^7 \times 26.7} = 220 \text{ K}$$

OBJECTIVE BITS

1. In the porous plug experiment, the temperature of the gas increases after throttling. The correct range for the initial temperature of the gas for this to happen is

1. Critical temperature to Boyle's temperature
2. Boiling temperature to critical temperature
3. Below inversion temperature
4. (2) and (3)

2. The equation $\left(\frac{dP}{dT}\right)_g = \frac{S}{V}$, where P is pressure, S is specific entropy of liquid helium and V is specific volume, is known as

1. Joule – Thomson effect equation
2. Joule – Kelvin effect equation
3. Fountain effect equation
4. (1) & (2)

3. Cooling is possible when

1. $T_i = \frac{2a}{2b}$
2. $T_i > \frac{2a}{Rb}$
3. $T_i < \frac{2a}{Rb}$
4. $T_i \leq \frac{2a}{2b}$

4. Joule–Thomson cooling is

1. Temperature independent
2. Temperature dependent
3. Inversely proportional to molecular weight
4. Dependent on the total mass of gas

5. The Clapeyron's equation $\frac{L}{V_2 - V_1} = T\left(\frac{dP}{dT}\right)$, can be derived from

1. $\left(\frac{dS}{dV}\right)_T = \left(\frac{dP}{dT}\right)_V$
2. $\left(\frac{dP}{dV}\right)_T = \left(\frac{dP}{dT}\right)_V \left(\frac{dT}{dV}\right)_P$
3. $\left(\frac{dC_p}{dP}\right)_T = -T\left(\frac{dv}{dT^2}\right)$
4. None of the above

6. The following processes are used for cooling

1. Evaporation
2. Adiabatic demagnetization
3. Adiabatic expansion compressed gas
4. (2) & (3) only

7. The dimensions of the constant b in Vander waal's gas equation are that of

1. Volume
2. Pressure
3. Volume × Pressure
4. Volume / Pressure

8. According to Vander Waal's gas equation critical co-efficient $\frac{R T_c}{P_c V_c}$ is equal to

1. 1
2. 8/3
3. 8
4. 3:1

★ Sum of the static and dynamic pressure is constant. i.e., $P+\frac{1}{2}PV^2$ = constant; $\frac{1}{2}PV^2$ is constant.

★ **Applications:**

1. Lift of an airfoil
2. The sprayer
3. Spinning of a ball
4. Bunsen burner
5. Pitot tube
6. carburettor
7. Vacuum brake
8. Venturimeter
9. Torricelli's theorem

TORRICELLI'S THEOREM

★ The velocity of efflux of a liquid through an orifice is equal to that which a body would acquire in falling freely from the free surface of liquid to the orifice.

According to Bernoulli's theorem.

The sum of the pressure and the total energy per unit volume of the liquid must be the same at the free surface and at every point of the orifice.

$\Rightarrow P+0+PgH = P+{}^1/_2PV^2+Pg(H-h)$

$\Rightarrow {}^1/_2PV^2 = Pgh$

$\Rightarrow V = \sqrt{2gh}$

★ The rate of flow of water through circular orifice is $0.62\ a\sqrt{2gh}$. Where 'a' is area of cross section.

★ **Pitot tube:** To determine the velocity of flow of the liquid in tube, rivers and streams etc., it is measured by using $V=\sqrt{2gh}$, where 'h' is the height difference between arms of pitot tube and 'g' is acceleration due to gravity.

Venturimeter: Venturimeter is a guage put on a flow pipe to measure the rate of flow of a liquid through a pipe. According to Bernoulli's theorem, velocity of flow of liquid at point A is

$$V_1 = \left[\frac{2A_2^2(P_1-P_2)}{P(A_1^2-A_2^2)}\right]^{\frac{1}{2}} \text{ and}$$

Velocity of flow of liquid at point B is

$$V_2 = \left[\frac{2A_2^2(P_1-P_2)}{P(A_1^2-A_2^2)}\right]^{\frac{1}{2}}$$

PROBLEMS & SOLUTIONS

1. Water enters a horizontal pipe of non-uniform cross-section with a velocity of 0.4 m/s and leaves the other end with a velocity of 0.6 m/s, pressure of water at the first end is 1500 N/m^2. Then calculate the pressure of water at other end.

Sol: The horizontal flow of liquid.

$$P_1 + \frac{1}{2}\rho V_1^2 = P_2 + 1/2\,\rho V_2^2$$

$$P_2 = P_1 + \frac{1}{2}\rho(V_1^2 - V_2^2)$$

Where, $P_1 = 1500$, $V_1 = 0.4$, $V_2 = 0.6$

$$P_2 = 1500 + \frac{1}{2}\times 10^3 \times (0.16 - 0.36)$$

$$P_2 = 1500 - 100 = 1400$$

$$P_2 = 1400\ N/m^2$$

2. A bent tube is lowered into a water stream. The velocity of the stream relative to the tube is equal to V = 2.5 m/s. The closed upper end of the tube located at the height h_o = 12 cm has a small orifice. To what height h will be the water jet spurt.

Sol: The K.E at the lower end is converted into pressure and again pressure energy converted into K.E.

$$\frac{1}{2}\rho V^2 = h_o\rho g + \rho(V^1)^2$$

$$\therefore\ V^1 = \sqrt{\frac{[\rho V^2 - 2h_o\rho g]}{\rho}}$$

$$\text{or } V^1 = \left[V^2 - 2gh_o\right]^{1/2} \quad \ldots\ldots (1)$$

$$h = \frac{(V^1)^2}{2g} \quad \ldots\ldots (2)$$

From (1) and (2) then we get

$$h = \frac{(V^1)^2}{2g} - h_o \quad \ldots\ldots (3)$$

$$h = \frac{(2.5)^2}{2\times 9.8} - 0.12$$

$$h = 0.20\ m$$

9. Joule–Thomson co-efficient is given by

1. $\mu = \frac{1}{C_p}\left[T\left(\frac{dV}{dP}\right)_T - V\right]$

2. $\mu = \frac{1}{C_p}\left[T\left(\frac{dV}{dT}\right)_P + V\right]$

3. $\mu = \frac{1}{C_p}\left[T\left(\frac{dV}{dT}\right)_P - V\right]$

4. $\mu = J\,C_p\left[T\left(\frac{dV}{dT}\right) - V\right]$

10. The Vanderwaal's constants a and b for 1 gram molecule of hydrogen are a = 0.245 atm lt^2 $mole^{-2}$. Then calculate the critical, constants of the gas.

1. $T_c = 239°C$
   $V_c = 8.01 \times 10^{-2}$ kg
2. $T_c = -239.82°C$
   $V_c = 8.01 \times 10^{-2}$ kg
3. $P_c = 13.12$ Atm
4. (2) & (3) only

11. Calculate the critical temperature of helium given the following values for critical constants $a = 615 \times 10^{-5}$, $b = 995 \times 10^{-4}$; where the units of pressure is the atmosphere and the unit of volume, the gram molecular volume of gas at NTP.

1. –268°C
2. 5K
3. 5°C
4. (1) & (2)

12. The temperature of inversion of hydrogen and helium are

1. –80°C, –240°C
2. –80°K, –240°K
3. 80°C, 240°K
4. (1) & (2) only

13. In a porous-plug experiment, the change in temperature of the gas depends upon

1. Its thermal conductivity
2. The difference in pressure on either side of the plug
3. Its specific heat
4. None of the above

ANSWERS

1.4	2.3	3.3	4.2	5.1	6.4	7.1	8.2	9.3	10.4	11.4	12.1	13.2

1.1. VECTORS

STUDY MATERIAL

★ **Scalar quantity:** A physical quantity which has only magnitude is called scalar.

Ex: Mass, temperature, speed, etc.

★ **Vector quantity:** A physical quantity having both magnitude and direction.

Ex: Velocity, momentum, acceleration, force, etc.

★ **Sum of scalars:** The sum of two scalars is a scalar quantity.

★ **Null vector:** The vector whose origin and terminus, is same is called null vector or zero vector. Its magnitude is zero and direction is indeterminate.

★ **Unit vector:** The vector having unit magnitude is called unit vector.

If $\vec{A}$ is the vector, then its unit vector $\hat{a} = \frac{\vec{A}}{|\vec{A}|}$

Note: 1. The unit vector which is perpendicular to the plane containing vectors $\vec{A}$ & $\vec{B}$ is

$$\hat{c} = \frac{\vec{A}\times\vec{B}}{|\vec{A}\times\vec{B}|}$$

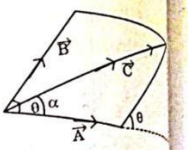
2. 'O' is origin, P(x, y, z) then the unit vector parallel to $\overrightarrow{OP} = x\vec{i}+y\vec{j}+z\vec{k}/\sqrt{x^2+y^2+z^2}$

★ Displacement, velocity, acceleration, momentum, force, impulse, intensity of electric field, moment of magnetisation, magnetic induction .... etc., these vectors are called real or polar vectors.

★ Torque, angular momentum, angular velocity .... etc., these vectors are called axial vectors.

★ **Triangular law:** If two vectors are represented in magnitude and direction by the two sides of a triangle taken in order, the resultant vector is represented in magnitude and direction by the third side of triangle taken in reverse order.

★ **Parallelogram law:** If two vectors are represented in magnitude and direction by the two adjacent sides of a parallelogram drawn from a point, their resultant is represented in magnitude and direction by the diagonal passing through the same point.



Parallelogram

★ If the angle between two vectors $\vec{A}$ & $\vec{B}$ is θ then resultant vector,

$C^2 = A^2+B^2+2AB\cos\theta$.

or $C = \sqrt{A^2+B^2+2AB\cos\theta}$

If the resultant $\vec{C}$ makes an angle α with the direction $\vec{A}$, then

$$\alpha = \tan^{-1}\left[\frac{B\sin\theta}{A+B\cos\theta}\right]$$

Cases:

i. If $\vec{A}$ & $\vec{B}$ are in same direction, $\theta = 0°$

$$|\vec{A}+\vec{B}| = |\vec{A}| + |\vec{B}|$$

ii. If $\vec{A}$ & $\vec{B}$ are in opposite direction, $\theta = 180°$

$$|\vec{A}+\vec{B}| = |\vec{A}| - |\vec{B}|$$

iii. If $\vec{A}$, $\vec{B}$ are in perpendicular directions and $|\vec{A}| = |\vec{B}|$ then $|\vec{A}+\vec{B}| = \sqrt{2}\,A$

iv. $|\vec{A}| = |\vec{B}|$ then $|\vec{A}+\vec{B}| = 2A\cos\theta/2$

★ **Polygon law:** If no.of vectors are represented in magnitude and direction by the sides of a polygon taken in order, the resultant is represented in magnitude and direction by the closing side of the polygon taken in reverse order.

★ **Scalar product of two vectors (DOT product)**

The scalar or DOT product of two vectors $\vec{A}$ and $\vec{B}$ is defined as the product of the magnitude of two vectors and the cosine of the angle between them.

1. If A, B are two vectors then their dot product $\vec{A}.\vec{B} = |\vec{A}|.|\vec{B}|\cos\theta$

2. Commutative law $\vec{A}.\vec{B} = \vec{B}.\vec{A}$

9) A condenser of capacity 10μF is charged to a potential of 1000V, then the energy stored in the condenser
1) 5J 2) 10J 3) 15J 4) 20J

10) An infinitely long conductor carries a current of 100mA. What is the magnetic field a point 0.1m away from it.
1) 0.0795Amp/m 2) 0.1043Amp/m
3) 0.1591Amp/m 4) 2×10^{-7}

11) A coil wire of certain radius has 600 turns and self-inductance 100 mH. What will be the self-inductance of a similar coil with 500 turns.
1) 69.4 mH 2) 75 mH
3) 83.3 mH 4) 100 mH

12) The amount of field energy passing in unit time through unit area of the surface perpendicular to the direction of propagation of energy is called
1) Hall effect
2) Electromagnetic energy
3) Steady current 4) Poynting vector

13) In the experiment of determination of the charge on the electron in Millikan's method, oil used because
1) To eliminate error due to evaporation
2) Small drops can be formed
3) The surface tension is more for the oil
4) To eliminate error due to usage of stokes formula for bigger spheres also

14. The dielectric constant of a medium is 1, Electric field in the dielectric is 10^6 V/m then its polarization
1) 27×10^{-6} cm^{-2} 2) 36×10^{-6} cm^{-2}
3) 51×10^{-6} cm^{-2} 4) 0

15. A spherical drop of water carrying a charge of 3×10^{-6} C has a potential of 1000V at its surface. What is the radius of the drop
1) 108 m 2) 54 m
3) 27 m 4) 12 m

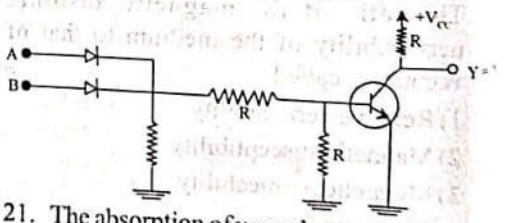
16. By using the laws of bodean Algebra
$AB - ABC + \overline{A}B + A\overline{B}C = 0$
1) B + AC 2) A(B + C)
3) A + BC 4) AB + BC + CA

17. The ripple factor of a bridge rectifier is
1) 1.21 2) 1.11 3) 0.812 4) 0.48

18. The minority and majority carriers p-type semi conductor are
1) Holes and Electrons
2) Electrons and Holes
3) Holes only 4) Electrons only

19. The process of getting back audio signa from modulated wave is–
1) Detection 2) Rectification
3) Amplification 4) Oscillation

20 In digital electronics, the following circui belongs to
1) Ex-OR gate 2) NAND gate
3) NOR gate 4) OR gate



21. The absorption of γ rays by matter at higher energies is almost
1) Compton absorption
2) Pair production
3) Photoelectric absorption
4) None of these

22. An alpha particle of mass 6.65×10^{-27} kg and positive charge twice that of an electron at right angles to a magnetic field with a velocity of 3×10^5 m/sec. If the flux density of field is 0.2 W/m^2. The force acting on the alpha particle is–
1) Zero 2) 6.65×10^{-27}N
3) 1.92×10^{-14}N 4) 8.32×10^{-28}N

23. Xenon having - Isotopes
1) 1 2) 3 3) 5 4) 9

24 The packing fraction is - for elements with mass number between 20 and 200
1) Positive 2) Negative
3) Zero 4) None of these

25. In a crystal, a lattice plane cuts intercepts of 2a, 3b and 6c along the three axes where a, b, c, are primitive vectors of the unit cell. The miller indeces of the given plane is
1) (3 2 1) 2) (2 3 6)
3) (2 $\bar{3}$ 3) 4) (1 2 3)

26. Example of Anti Ferromagnetism
1) MnS 2) Zn 3) Fe_3O_4 4) Bi

27. The time independent schrodinger's wave equation is
1) $\nabla^2\psi + \frac{2m}{\hbar^2}(E + v)\psi = 0$
2) $\frac{-\hbar^2}{2m}(\nabla^2 + v)\psi = \hbar\frac{\partial\psi}{\partial t}$
3) $\nabla^2\psi + \frac{2m}{\hbar^2}(E - V)\psi = 0$
4) $\frac{-\hbar^2}{2m}(\nabla^2 + V)\psi = 0$

28. Positron is a
1) Anti-electron 2) Anti-proton
3) Anti-neutron
4) Anti-charged K meson

29. In the hydrogen spectrum Lyman Series lies in the
1) Visible region 2) UV region
3) Micro wave region
4) Infrared region

30. For a tricline Crystal system
1) $a = b \neq c$ $\alpha = \beta = \gamma = 90^0$
2) $a = b = c$ $\alpha = \beta = \gamma \neq 90^0$
3) $a = b \neq c$ $\alpha = \beta = 90^0$ and $\gamma = 120^0$
4) $a \neq b \neq c$ $\alpha \neq \beta \neq \gamma \neq 90^0$

31. The thereshold wavelength of sodium is 5045 $\mathring{A}$ then its work function is–
1) 6.619×10^{-19} J 2) 3.936×10^{-21} J
3) 7.432×10^{-19} J 4) 12.495×10^{-19} J

32. If the uncertainity in the position of an electron is 2×10^{-10}m, then the uncertainity in its momentum is
1) 6.62×10^{-30} kg - m/sec
2) 4.32×10^{-30} kg - m/sec
3) 3.31×10^{-24} kg - m/sec
4) zero

33. The disintegration constant (λ) of radiactive element is 0.00231 per day, then its half-life
1) 5.3 years 2) 432.9 days
3) 300 days 4) 87 days

34. What is the compton shift for an X-ray photon if it is scattered at an angle of 60^0 by electron
1) 0.0121 $\mathring{A}$ 2) 0.0242 $\mathring{A}$
3) 0.0432 $\mathring{A}$ 4) 0.1041 $\mathring{A}$

35. Einstein equation of photoelectric effect is
1) $E = mc^2$ 2) $E = h\nu$
3) $E = (m - m_0)C^2$
4) $h\nu = \frac{1}{2}mv^2 + \phi$

36. The radius of Holmium (Ho^{165}) is 7.731 Fermi, then the radius of Helium (He^4) is
1) 26.71 Fermi 2) 18.24 Fermi
3) 15.71 Fermi 4) 2.23 Fermi

37. The dispersion of positive ions in Aston's mass spectrograph is due to the applied
1) Magnetic field 2) Electric field
3) Both electric and magnetic fields
4) None of these

SIR C.R.REDDY COLLEGE FOR WOMEN, ELURU

PG ENTRANCE COACHING

2021-2022

SUB: PHYSICS

ATTENDANCE SHEET

S.NO	ROLL.NO	NAME OF THE STUDENT	CLASS	SIGNATURE OF THE STUDENT
1	191020	B.SANDYA RANI	MPC	B. Sandyarani
2	191004	CH.SRAVANI	MPC	Ch. Sravani
3	191006	D.RAMYASRI	MPC	D. Ramya Sri
4	191037	B.JAYA LAKSHMI	MPC	B. Jayalakshmi
5	191083	J.PRASANNA	MPC	J. Prasanna
6	191084	K.SAI JYOTHI	MPC	K. Sai jyothi
7	191012	K.CHANDANA DEVI	MPC	K. chandanadevi
8	191045	M.SANDHYA	MPC	M. Sandhya
9	191068	M.MANISHA	MPC	M. Manisha
10	191087	M.SPANDANA DEVI	MPC	M. spandanadevi
11	191088	M.MADHUSRI	MPC	M. Madhusri
12	191047	M.BHANU SRI	MPC	M. Bhanu Sri
13	191016	M.SRAVANI	MPC	M. Sravani
14	191089	M.V BHARGAVI	MPC	M. V. Bhargavi
15	191054	M.KALYANI	MPC	M. Kalyani
16	191091	N.JYOTHI	MPC	N. Jyothi

17	191017	P.PAVITHRA	MPC	P. Pavithra
18	191095	P.RAMYA SRI	MPC	P. Ramya Sri
19	191097	P.BHANU SRI	MPC	P. Bhanu Sri
20	191098	P.PRABHAVATHI	MPC	P. Prabhavathi
21	191099	P.YAMINI	MPC	P. Yamini
22	191100	P.ANUSHA	MPC	P. Anusha
23	191101	P.ROHITHA KAVYA	MPC	K. Phani Sri.
24	191062	K.PHANI SRI	MPC	K. Phani Sri
25	191106	R.NAVYA SRI	MPC	R. Navya Sri
26	191167	R.PRABHAVATHI	MPC	R. Prabhavathi
27	191109	S.NAGA PRIYA	MPC	S. Naga Priya
28	191110	S.PAVANI	MPC	S. Pavani
29	191113	S.HARIKA	MPC	S. Harika
30	191116	T.SIREESHA	MPC	T. Sirisha
31	191062	V.KRANTHI	MPC	V. Kranthi
32	191123	Y.SANTHI	MPC	Y. Santhi
33	191081	Y.MOUNIKA	MPC	Y. Mounika
34	191125	M.USHA RANI	MPC	M. Usha Rani
35	191092	N.MOUNIKA	MPC	N. Mounika
36	192012	A.BHUVANESWARI	MPCS	A. Bhuvaneswari
37	192050	K.THABITHA	MPCS	K. Thabitha
38	192065	MD.SUMAYYA	MPCS	MD. Sumayya
39	192069	N.YASASWINI	MPCS	N. Yasaswini

40	192008	P.S.L PRASANNA	MPCS	P. S. L. Prasanna
41	192053	P.SAI SAMYUKTHA	MPCS	P. Sai Samyuktha
42	192077	P.PAVANA NAGA DURGA	MPCS	P.P.N. Durga
43	192010	SK RESHMA	MPCS	SK. Reshma

M. Jaya

Signature

Students Attendance Register

SIR C R REDDY COLLEGE FOR WOMEN , ELURU

CAREER GUIDANCE & PLACEMENT CELL

PG ENTRANCE COACHING 2021-2022

SUB: PHYSICS

S.No	ROLL.NO	CLASS	NAME OF THE STUDENT
1	191020	MPC	B.SANDYA RANI
2	191004	MPC	CH.SRAVANI
3	191006	MPC	D.RAMYASRI
4	191037	MPC	B.JAYA LAKSHMI
5	191083	MPC	J.PRASANNA
6	191084	MPC	K.SAI JYOTHI
7	191012	MPC	K.CHANDANA DEVI
8	191045	MPC	M.SANDHYA
9	191068	MPC	M.MANISHA
10	191087	MPC	M.SPANDANA DEVI
11	191088	MPC	M.MADHUSRI
12	191047	MPC	M.BHANU SRI
13	191016	MPC	M.SRAVANI
14	191089	MPC	M.V BHARGAVI
15	191054	MPC	M.KALYANI
16	191091	MPC	N.JYOTHI
17	191017	MPC	P.PAVITHRA
18	191095	MPC	P.RAMYA SRI
19	191097	MPC	P.BHANU SRI
20	191098	MPC	P.PRABHAVATHI

21	191099	MPC	P.YAMINI																								
22	191100	MPC	P.ANUSHA																								
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35	191092	MPC	N.MOUNIKA																								
36	192012	MPCS	A.BHUVANESWARI																								
37	192050	MPCS	K.THABITHA																								
38	192065	MPCS	MD.SUMAYYA																								
39	192069	MPCS	N.YASASWINI																								
40	192008	MPCS	P.S.L PRASANNA																								
41	192053	MPCS	P.SAI SAMYUKTHA																								
42	192077	MPCS	P.PAVANA NAGA DURGA																								
43	192010	MPCS	SK RESHMA																								

SIGNATURE

REPORT

PROGRAMME: PG Entrance COACHING FOR III B.Sc. aspirants in Physics subject

In association with IQAC &In accordance with the resolution made during the meeting and documented in the minutes, it was unanimously agreed to arrange PG entrance coaching classes for interested students pursuing IIIB.Sc (Physics) This significant decision forms an integral part of the report on the PG entrance coaching classes in **Physics** subject conducted from 27-June-2022 To 21 -July-2022 from 8:30am to 09:30am & 4.30pm to 5.30pm.These classes were conducted senior and expert faculty from the concerned department.

Approximately 43 motivated students actively participated in the coaching sessions These meticulously organized classes aimed to prepare the students comprehensively for the upcoming PG entrance examinations scheduled in the month of Sep 2022. The coaching sessions were diligently conducted from 8:30 AM to 09:30 AM & 4.30PM to 5.30PM, adhering to a structured curriculum meticulously designed to equip students with the essential skills and knowledge required for success in the examination.

The outcomes of these coaching classes have been highly encouraging. 5 students were qualified in the exam. Few students showcased exceptional performance, securing remarkable pg. ranks demonstrating both their commitment and the effectiveness of the coaching program.

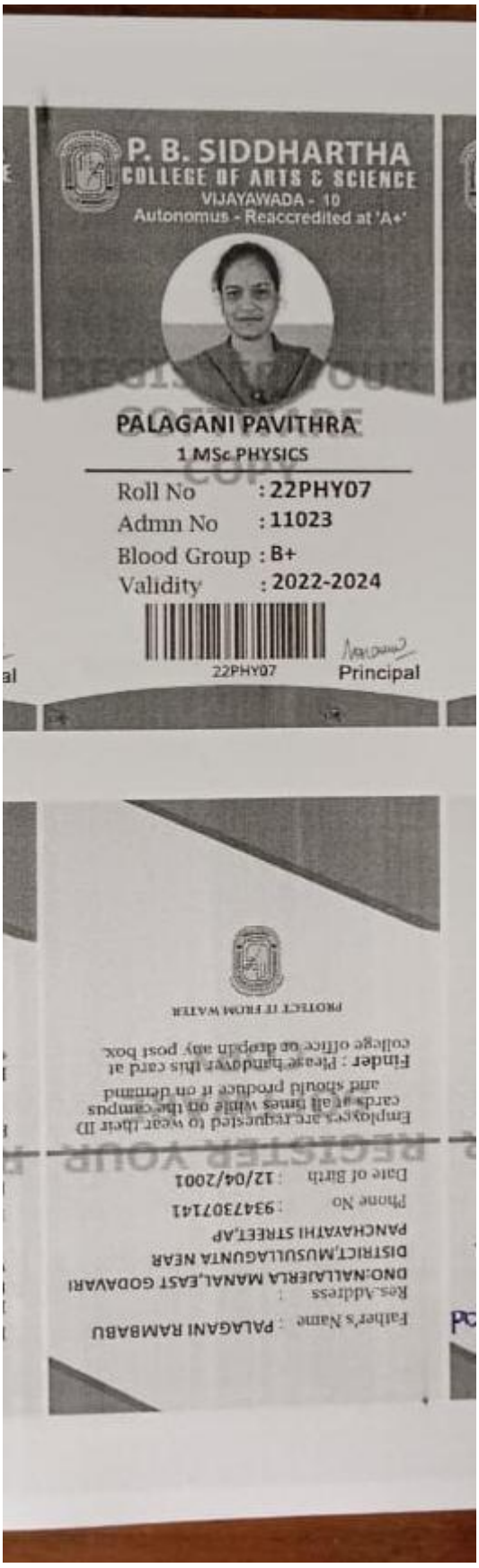
The successful arrangement of these coaching classes aligns directly with the decision made during the meeting These sessions facilitated a conducive learning environment, significantly contributing to the preparedness and success of the students preparing for the PG entrance examination.

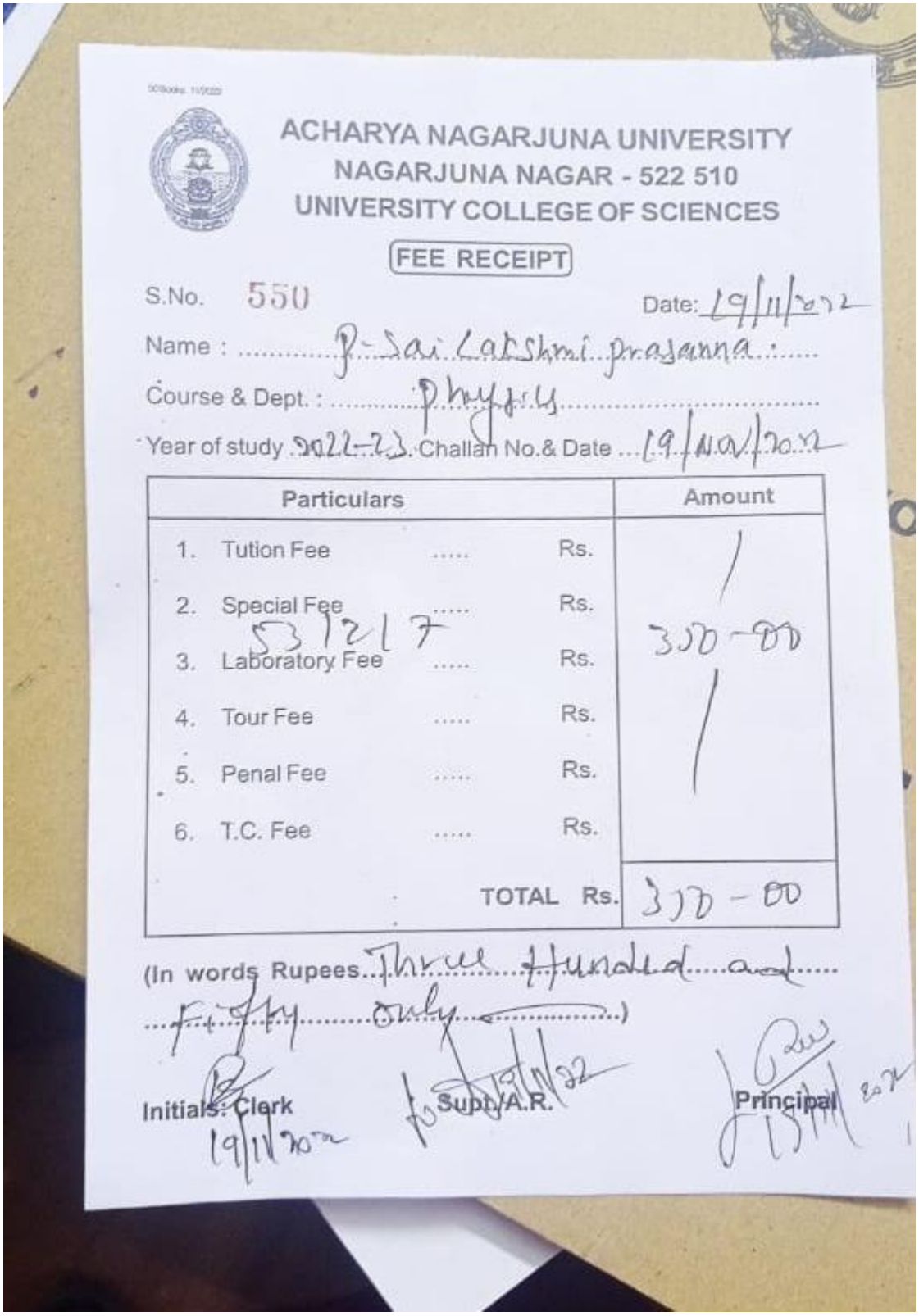
Their dedication has been instrumental in empowering our students for academic success.

LIST OF THE STUDENTS QUALIFIED IN M.Sc PHYSICS ENTRANCE EXAM 2021-2022

S.NO	NAME OF THE STUDENT	GROUP
1	N.MOUNIKA	MPC
2	P.PAVITHRA	MPC
3	P.SAI LAKSHMI PRASANNA	MPCs
4	SK.RESHMA	MPCs
5	P.YAMINI	MPC

ID CARDS AND RANK CARDS





ACHARYA NAGARJUNA UNIVERSITY
NAGARJUNA NAGAR - 522 510
UNIVERSITY COLLEGE OF SCIENCES

FEE RECEIPT

S.No. 550 Date: 19/11/2022

Name : P. Sai Lakshmi prasanna

Course & Dept. : Physics

Year of study 2022-23 Challan No.& Date 19/11/2022

Particulars			Amount
1. Tution Fee	.....	Rs.	/
2. Special Fee	.....	Rs.	300-00
3. Laboratory Fee 53127	.....	Rs.	/
4. Tour Fee	.....	Rs.	
5. Penal Fee	.....	Rs.	
6. T.C. Fee	.....	Rs.	
		TOTAL Rs.	300-00

(In words Rupees Three Hundred and Fifty only)

Initials: Clerk 19/11/2022 Supdt/A.R. 19/11/22 Principal 19/11/2022

APPGCET – 2022
Post Graduation Admissions
(Conducting by Yogi Vemana University, Kadapa and APSCHE)

Hall Ticket No	*30820220647*	**Rank**	*733*
Candidate Name	*SHAIK RESHMA*	**Father's Name**	*shaik silar basha*
Gender	*Female (F)*	**Caste/Region**	*BC_E/NL*

PROVISIONAL ALLOTMENT ORDER(For APPGCET-2022 CANDIDATES)

This is to inform that the options exercised by the candidate have been processed based on merit, rank, local area, gender, category, Special Reservation Category (CAP/PH/NCC/SPORTS) etc and the candidate has been allotted a seat in

Acharya Nagarjuna University College, (ANUC), Guntur

in M.Sc. Physics, (PG106) under BC_E_GIRLS_UR category.

Tuition Fee fixed for the college/course is Rs. 14930/-.

Tuition fee to be paid by the candidate at the time of admission is Rs. 0/-.**

****Tuition fee exempted under fee reimbursement category.**

Tution fee exempted under fee reimbursement category the students belonging to SC/ST/BC/EBC/Disabled/Minority categories will be considered for Full Reimbursement of Tuition Fee under Jagananna Vidya Deevana (RTF) scheme subject to verification and eligibility criteria prescribed by State Government of Andhra Pradesh vide G.O.M.S.NO:66 dated 08/09/2010 of Social welfare (SW.EDN.2) Dept., G.O.M.S.NO:115 dated 13/11/2019 of Social Welfare (EDN) Dept.,G.O.M.S.NO:72 dated 18/10/2O14 of social welfare(SW.EDN.2) department, G.O.Ms.No.77 Social Welfaredept.,dated 25.12.2020 and relevant instructions issued by Social Welfare and Higher Education Dept., Govt. of A.P. from time to time. In the event of the candidate found not eligible for fee reimbursement at a later date, the candidate shall have to pay the total fee as prescribed by the Competent authority.

You are eligible for tution fee reimbursement under the Jagananna Vidya Deevana Scheme. The tuition fee will be paid to your mother s bank account in four quarters. Hence, you are requested to pay the tuition fee amount within one week to the college from the date of receiving the tution fee amount from the Government.

Instructions to Candidates :

1. The candidate is instructed to report by clicking on Allotment letter and Self-Reporting under Forms tab from website https://sche.ap.gov.in .
2. Take print out of two copies of joining report and report to the allotted college with all original certificates. Submit a copy of joining report and obtain acknowledgment on 2nd copy from the College where you have reported and retain the same with you.
3. Both Self reporting and reporting at the allotted college is compulsory to retain the present allotment. The last date for Self reporting and reporting at the allotted College is 19.11.2022. Pay all necessary fees if any to the allotted college.
4. If you do not report through Self-reporting system and/or not reporting at the allotted college, the provisional allotment will be cancelled and you have no claim on the seat allotted.
5. The academic credentials verified if found false at a later date, your allotment will be cancelled and you are also liable for criminal prosecution.
6. All the Principals are requested to verify the original certificates viz caste,study, income and Degree/Equivalent certificates of the admitted candidates thoroughly and request to bring to the notice of the Convenor, APPGCET-2O22 Admissions for any deviation.
7. The candidate is informed that the class work shall be commenced from 18.11.2022 and direceted to attend the class work.

CONVENOR

APPGCET-2022 ADMISSIONS

*** This computer generated Provisional Allotment Order does not require any authentication. ***

APPGCET-2022

Post Graduate Common Entrance Tests
(Conducted by Yogi Vemana University, Kadapa on behalf of APSCHE)

Subject Code & Name	308-Physical Sciences
Course Code & Name	PG106-M.Sc. Physics

Candidate's Name	: PEDDISETTI YAMINI
Father's Name	: PEDDISETTI SATYANARAYANA
Mother's Name	: PEDDISETTI VARALAKSHMI
Registration No	: PG190722123758
Address	: 2-136C KUCHIMPUDI,PEDAVEGI MANDAL WESTGODAVARI ANDHRAPRADESH 534450

Category	**Hall Ticket Number**
OC	308202207O3

Gender
FEMALE

DOB
14/10/1999

Local Status
AU

Test Date & Time	**Test Centre**
11/09/2022 (SUNDAY) 09.30 AM to 11.00 AM	Sri Vidyalaya Junior College Indraprastha Greens, Vatluru, West Godavari, Eluru, Andhra Pradesh, India. 534007

Signature of the Candidate
(To be Signed in the presence of the Invigilator)

Convener

IMPORTANT INSTRUCTIONS TO THE CANDIDATE

1. **The candidates eligibility for a course is not verified at the time of application and it will be verified only at the time of admission.** Issue of Hall Ticket and appearance at the test does not automatically entitle the candidate for admission into the Course or College.
2. Please check carefully your Name, Date of Birth, Gender, Category, Test Paper Code, and Name of the Test Paper, printed in the Hall Ticket. In case of any discrepancy, communicate to the APPGCET-2022 help line Centre, immediately for necessary action but not later than 2 days before the concerned exam date.
3. Hall Ticket shall be shown at the Entrance of the Test Centre and also in the Examination Hall, failing which the candidate will not be allowed to write the test. Candidate will be permitted to appear for the examination only after their credentials are verified by the Centre officials.
4. The candidate shall carry into the Examination hall (i) Black/Blue Ball Point Pen (ii) Hall Ticket and (iii) Valid Original photo identification cards(College ID card / Aadhaar Card / Driving License / Passport / PAN Card / Voter ID)
5. Candidate will be permitted into the Examination Hall from **8:00 AM for 1st Session, 11:30 AM for 2nd Session and 3:00 PM for 3rd Session** for capturing Biometric Information (your photo).
6. **Candidate will not be permitted into the Examination Hall after 9:15 AM for 1st Session, 12:45 PM for 2nd Session and 4.15 PM for 3rd Session, and will not be allowed to leave the hall until the test is completed.**
7. Listen to the instructions announced by the Invigilator carefully. After login, read the instructions carefully specially the list of symbols related to answering the online examination.No clarifications or doubts related to the questions of the examination paper will be entertained during the examination.
8. In case you detect any hardware or software problems with the computer provided, please raise your hand and talk to the invigilator. The problem shall be rectified immediately.In case the problem is not rectified within a reasonable time, the computer will be changed for you.Count down timer stops during the change, so no time will be lost for the candidate.
9. Carrying of Cell Phones, Watches (all types), Large Spectacles, Calculators, Mathematical/Log Tables, any other Electronic Gadgets and loose sheets of paper into the examination hall is strictly prohibited.
10. Adoption of any kind of unfair means and any act of impersonation during the time of test will render the applicant liable for invalidation of his / her examination. Further he / she will forfeit the claim of appearing for the test and will be liable for criminal action.
11. There may not be a guaranteed security facility for safekeeping of your valuable devices or personal belongings outside the examination hall.
12. Blank papers will be provided for rough work in the examination hall. Candidates have to hand over the rough sheets to the invigilator concerned after the end of the examination.
13. The candidate is advised to visit the test Centre well in advance to familiarize with the location of the Test Centre.
14. Hall Ticket must be preserved till the time of admissions.
15. No travelling expenses will be paid for the journey to take the test.

(P.T.O)

APPGCET-2022

Post Graduate Common Entrance Tests

(Conducted by Yogi Vemana University, Kadapa on behalf of APSCHE)

RANK CARD

Hall Ticket No. : 308202207J3

Candidate's Name : NIMMALURI MOUNIKA

Father's Name : NIMMALURI VENKATESWARA RAO

Test Code & Paper : 308 : Physical Sciences

Community
BC-A
Date of Birth
10/11/2001

Course Code	Course Name
PG106	M.Sc. Physics

N-Mounika

Marks Obtained : 53

Rank : 114

Category Wise Rank	Rank
BC-A	12
Women	63

Y. Nagger Ahammed

Convener

INSTRUCTIONS TO THE CANDIDATE

1. The admissions into first year of various P.G. Courses (M.A., M.Com., M.Sc., MCJ, M.J.M.C., M.Lib.I.Sc., M.Ed., M.P.Ed., M.Sc.Tech. etc) in the Academic Year 2022-23 offered by Andhra Pradesh State funded Universities and their Constituent/ Affiliated [Government and Private (Aided/Unaided)] Colleges including Minority Educational Institutions in the State will be made through a centralized web counseling. Further, the schedules will be available in websites. The qualified candidates are advised to visit the websites from time to time for further admission schedules.
   Websites: www.yogivemanauniversity.ac.in (or) www.yvu.edu.in (or) https://cets.apsche.ap.gov.in
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 upload for verification.
   I. Rank Card and Hall Ticket of APPGCET - 2022.
   II. Transfer Certificate (T.C) from the institution where the candidate has last studied.
   III. Degree certificate and complete memorandum of marks or consolidated memo of qualifying examination (the downloaded memos are not allowed). The candidate should ensure that he / she has passed the qualifying examination with requisite percent of marks without which his / her admission will not be entertained.
   IV. Secondary School or 10th std. Certificate.
   V. Bonafide certificates from 9th Class onwards or Proof of Local \ Non-Local status of the candidate as per the rules in force.
   VI. Community / Caste Certificate, if applicable.
   VII. Latest Income Certificate issued by Tahsildar on or after 01.01.2022, if applicable.
   VIII. Certificates of special categories, if applicable, and when called for admission under these categories.
   IX. Aadhaar Card.
4. In addition to the above, the candidates must also upload passport size photographs that are similar to those uploaded during the online.

Photo Gallery Photo Gallery

PG ENTRANCE COACHING GIVEN BY M.JAYA LAKSHMI DEVI