

SEVA BHARATI MAHAVIDYALAYA

DEPT. OF PHYSICS

End Semester Internal Examination (Theory)-2023

Semester: II

Session: 2022-2023

Subject: Physics

Paper: GE2 (T) - Thermal Physics and Statistical Mechanics

Total Marks: 10 = (5×2)

Time: 30 Minutes

Answer any Five Questions [Each Question Carry Equal Marks]

1. State Stefan-Boltzmann's law of radiation.
2. State the Postulates of B.E statistics and F.D statistics.
3. Draw the P-V diagram for isobaric and isothermal process.
4. Calculate the change in entropy in isothermal expansion of an ideal gas.
5. Prove that $C_P - C_V = nR$ for n-mole of an ideal gas.
6. Calculate the change in entropy when the temperature of 15gm of water changes from 25°C to 35°C .
7. Write down the efficiency of a Heat engine and Carnot cycle.



M. Sanmool.

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DEPT. OF PHYSICS

End Semester Internal Examination (Theory)-2023

Semester: IV

Session: 2022-2023

Subject: Physics

Paper: GE4 (T) - Electricity and Magnetism

Total Marks: 10 = (5×2)

Time: 30 Minutes

Answer any Five Questions [Each Question Carry Equal Marks]

1. Find out the value of \vec{E} for the scalar potential $\phi(x, y, z) = 3x + 4y - z$, at the point (2,1,2) where \vec{E} denotes the electric field intensity.
2. Explain why the Electric field intensity inside a conductor is zero.
3. A charge of $2\mu\text{C}$ moving in a magnetic field of magnitude 5 Tesla in the z -direction with a velocity $(2\hat{i} + 2\hat{j}) \times 10^6$ m/sec. Find the force on the moving charge.
4. Define self - inductance for a coil and what is its unit?
5. Write down Maxwell's Electromagnetic equations with the meaning of the symbols.
6. Two-point charges $+q$ and $+4q$ are at a distance 'd' apart. Find the location, magnitude and sign of third charge so that entire system will be in equilibrium.
7. What is the Brewster's angle? What should be the angle of seen, so that sunlight reflected from water surface is plane polarized? [given, refractive index of water is 1.33].

C. Banerjee



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SEVA BHARATI MAHAVIDYALAYA

DEPT. OF PHYSICS

End Semester Internal Examination (Theory)-2022

Semester: I

Session: 2022-2023

Subject: Physics

Paper: GE1 (T) - Elements of Modern Physics

Total Marks: 10 = (5×2)

Time: 30 Minutes

Answer any Five Questions

[Each Question Carry Equal Marks]

1. Why Compton effect is not observed for visible light?
2. 1.0 gram of radioactive substance takes 91 days to loss 0.9 gram. Calculate the half-life and mean-life of the substance.
3. Prove that the wave function $\psi(x)=Ae^{(ikx)}$ is the eigenfunction of momentum operator, where k =Propagation constant.
4. Find out the maximum and minimum wavelength of Balmer series.
5. Calculate Potential Energy, Kinetic Energy and Total Energy of Hydrogen atom using Bohr's model.
6. An electron is confined within a region of atomic dimensions, of the order of 10^{-10} m. Find uncertainty in momentum.
7. Find out Probability current density in terms of ψ and ψ^* .

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DEPT. OF PHYSICS

End Semester Internal Examination (Theory)-2022

Semester: III

Session: 2022-2023

Subject: Physics

Paper: GE3 (T) - Solid State Physics

Total Marks: 10 = (5×2)

Time: 30 Minutes

Answer any Five Questions [Each Question Carry Equal Marks]

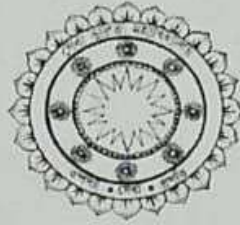
1. How miller indices are calculated?
2. What are the shortcomings of Debye model?
3. Discuss the difference between paramagnetic and ferromagnetic materials?
4. The radius of an Argon gas atom is 10^{-10} meter calculate the electronic polarizability of the atom?
5. The energy $E(\vec{K})$ of electrons of wave vector \vec{K} in a solid given by $E(\vec{K}) = A K^2 + BK^4$ where A, B are constants. Find the effective mass of the electron at $|\vec{K}| = K_0$.
6. What are the differences between type-I and type-II Superconductors?
7. Consider a set of lattice planes having inter planner distance 1.95 Å. If we use X-rays of wavelength $\lambda = 1.542$ Å, find all possible Bragg angles for reflection from those planes.

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Department of Physics

End Semester Internal Examination (Theory)

Semester: II

Session: 2021-2022

Subject: Physics

Paper: GE2 (T) - Thermal Physics and Statistical Mechanics

Marks: 10

Time: 30 Minutes

Answer any Two Questions (Each Question carry 5 Marks)

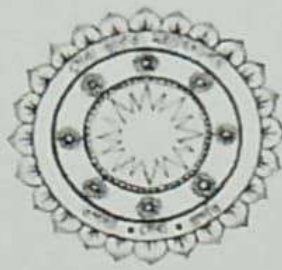
1. Explain adiabatic lapse rate for Earth's atmosphere and deduce equation. Prove that adiabatic curves are steeper than isothermal curves. Write down isothermal work done expression. [2+2+1]
2. State and prove Carnot's theorem. Show that the increase of entropy is inevitable in irreversible process. [3+2]
3. Write down Wien's Law for Black body radiation. What is Planck's connection of Blackbody radiation? Write down Maxwell's distribution law and find out mean speed of gas molecules. [2+1+2]

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Department of Physics

End Semester Internal Examination (Theory)

Semester: VI

Session: 2021-2022

Subject: Weather Forecasting

Paper: SEC4 (T)

Marks: 10

Time: 30 Minutes

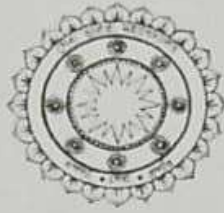
Answer any Five Questions (Each Question carry 2 Marks)

1. What are the compositions of Atmosphere?
2. Write down two characteristics of Cyclones and Anti-Cyclones.
3. What are the forces which produce Wind?
4. Define Tornadoes and Hurricanes.
5. What are the causes of Climate change?
6. What is the need of measuring Weather?
7. What are the methods of Weather Forecasting?



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Seva Bharati Mahavidyalaya

Department of Physics

End Semester Internal Examination (Theory)

Semester: IV

Session: 2021-2022

Subject: Physics

Paper: GE4 (T) - Electricity and Magnetism

Marks: 10

Time: 30 Minutes

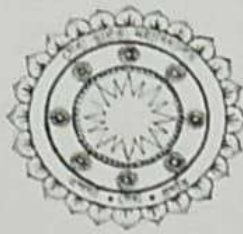
Answer any Five Questions (Each Question carry 2 Marks)

1. Check whether the vector field $\vec{E} = y^2\hat{i} + (2xy + z^2)\hat{j} + 2yz\hat{k}$ indicates any electric field?
2. Derive differential form of Gauss's law from integral form.
3. Show in graphs how the Electric Potential and Field changes with distance in a charged conducting empty sphere.
4. When a magnetic material is placed in a magnetic field of intensity 1000 A/m, then the total magnetic field becomes 2 Wb/m². Find the permeability and relative magnetic permeability of the material.
5. A semi-circular structure is made by bending a wire having length 'L' and current 'I' amp. Find the magnetic field at the centre of the semicircular structure.
6. State the laws of electromagnetic induction.
7. From which equation it is observed that magnetic lines of force are closed but electric lines of force are open.



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Department of Physics

End Semester Internal Examination (Theory)

Semester: VI

Session: 2021-2022

Subject: Physics

Paper: DSE2 (T) - Digital and Analog Circuits and Instrumentation

Marks: 10

Time: 30 Minutes

Answer all Questions (Each Question carry 2 Marks)

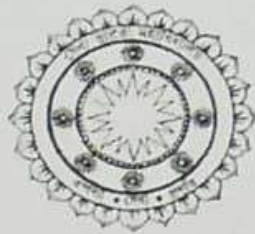
1. The reverse saturation current in a Si diode is $1\mu\text{A}$ at 300 K. Find the current through the diode for a forward bias of 0.59 Volt. (Boltzmann constant $K_0 = 1.38 \times 10^{-23}$).
2. Construct an adder circuit using an OPAMP and find the output (draw circuit representation)
3. (i) Convert $(25)_{10}$ to binary number.
(ii) Convert $(101101)_2$ to decimal number.
4. Draw CE characteristic Curves of an n-p-n Si transistor and explain active, saturation and cut-off region for different base current.
5. (i) Use NAND gate to get OR, AND gates.
(ii) What is CMRR of an OPAMP?

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Department of Physics

End Semester Internal Examination (Theory)

Semester: I

Session: 2021-2022

Subject: Physics

Paper: GE1 (T) - Elements of Modern Physics

Marks: 10

Time: 30 Minutes

Answer All Questions (Each Question carry 2 Marks)

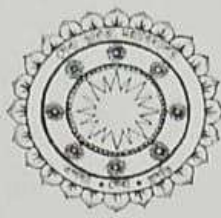
1. Establish the equation $N = N_0 e^{-\lambda t}$.
2. Work function of a material is 2.28 eV. When 3000 \AA light falls on the surface it ejects an electron. Find the velocity of that electron.
3. From Heisenberg's Uncertainty Principle, prove that electron cannot exist in Nucleus.
4. Given wave function $\psi(x) = A e^{i(ax - \omega t)}$. Find probability density J.
5. Define Nuclear Fusion with appropriate nuclear reaction.

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Seva Bharati Mahavidyalaya

Department of Physics

End Semester Internal Examination (Theory)

Semester: III

Session: 2021-2022

Subject: Physics

Paper: GE3 (T) - Solid State Physics

Marks: 10

Time: 30 Minutes

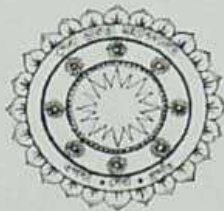
Answer any Five Questions (Each Question carry 2 Marks)

1. Aluminium (Atomic Weight 27) crystallizes in the cubic form with $a=4.05 \text{ \AA}$. The density of Aluminium is 2.7 gm/cm^3 . Find the type of the unit cell.
2. The energy versus wave vector relationship for a conduction electron in a semiconductor is $E = \frac{5\hbar^2 k^2}{m_0}$. Determine the effective mass of the electron.
3. State the assumptions made by Einstein in his theory of specific heat of solids. Define the Einstein temperature θ_E .
4. The permanent dipole moment for a certain gas molecule is $1.35D$. If there are 10^{27} gas molecules per meter^3 . Calculate the orientational polarization at room temperature for an applied electric field of 10 kV/cm .
5. What are the diamagnetic materials? Give some examples of paramagnetic materials.
6. What are Superconductors? What is Critical Temperature?
7. The magnetic field strength in a piece of metal is 10^6 amp/m . Find the Flux density and the magnetization in the material. Assume that the magnetic susceptibility of the metal is -0.5×10^{-5} .



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Department of Physics

End Semester Internal Examination (Theory)

Semester: V

Session: 2021-2022

Subject: Physics

Paper: DSE1 (T) - Elements of Modern Physics

Marks: 10

Time: 30 Minutes

Answer any Five Questions (Each Question carry 2 Marks)

1. One gram of Radium (Ra^{226}) disintegrates at 3.7×10^{10} dps by emitting α -particle. What is the half-life of the material?
2. A Photon scattered at an angle 45° by an electron at rest. If wavelength of the scattered photon is 9×10^{-15} m, then find out wavelength and energy of the incident photon?
3. What is probability current density in the Schrodinger's equation? Write its significance.
4. Write down the eigenfunctions for 1-D infinite rigid box. What are the eigen values?
5. Using uncertainty principle find the minimum value of the kinetic energy in MeV of a nucleon (proton) confined within the radius of 5×10^{-15} m.
6. A 50 MeV beam of protons is fixed over a distance 10 km. If the initial size of the wave packet is 1.5×10^{-6} m. What is the final size upon arrival?

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Internal assessment-2021

Course: GE-1-IA Subject: Physics

Marks-10 =5×2 Time -30 mins

Semester 1st, SESSION: 2020-2021.

Paper: Elements of Modern Physics

- Cut off frequency of a metal is 1.2×10^{14} Hz
 - Find out work function
 - If 7×10^{14} Hz of light fell on a metal surface find out kinetic energy of ejected electron.
- photons of 5 nm are scattered from electrons that are at rest. If the photon scatters at 60° relative to the incident photons calculate
 - Compton shift
 - Electron recoil energy
- Write down the probability current density derived from Schrodinger equation. and the equation it satisfies.
- Write down the Schrodinger Equation of 1-D infinite rigid box. Write down eigen function.
- In the case of above mentioned question find energy eigenvalues. Then plot energy and eigenfunctions.



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Internal assessment-2021

Course: DSC-3 Subject: Physics (General)

Marks-10 =5×2 Time -30 mins

Semester 3rd, SESSION → 2020-2021

Sub: Workshop Skill(SEC)

1. Define Screw pitch. How does it relate to Screw gauge. How you will rectify zero error. What is a backlash error?
2. Write in detail how you will find radius of curvature of a spherical surface of a lence of by spherometer.



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Internal assessment-2021

Course: DSC-1C-IA Subject: Physics (General)

Marks-10 =5×2 Time -30 mins

Semester 3rd, SESSION → 2020 - 2021

Paper: Thermodynamics & Statistical Mechanics

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1. Find out RMS and..Most Probable speed of Hydrogen at STP .
 $R = 8.3 \times 10^7 \text{ erg/deg/mole}$
2. Find temperature drop over 1 km of the atmosphere by using adiabatic lapse rate.
Take $\gamma = 1.4$, $g = 9.8 \text{ m/s}^2$ molecular weight of air $M = 0.029 \text{ kg/mole}$
3. 50 g of water at 60°C is mixed with 30 g of ice at 0°C . Calculate change of entropy. Take latent heat of ice 80 cal/g .
4. Write down Fermi Dirac distribution function. Plot distribution function vs energy for $T=0\text{K}$ and $T>0\text{K}$.
5. Prove that $\gamma = 1 + \frac{2}{f}$ where f is number of degrees of freedom.

Seva Bharati Mahavidyalaya

Internal assessment - 2019 , SESSION : 2019 - 2020

Semester - III

Physics

Paper : GE- 3

ANSWERS ANY TWO QUESTIONS :

5×2 = 10

- (1) What is space lattice ? Define Miller indices? Show that, for cubic crystal interplaner spacing between two successive parallel planes is $d_{hkl} = a/(h^2+k^2+l^2)^{1/2}$
- (2) Show that for a single cubic lattice $d_{100} : d_{110} : d_{111} = \sqrt{6}:\sqrt{3}:\sqrt{2}$. What is Hall effect. Define Hall coefficient. What is the SI unit of Hall coefficient.
- (3) What is the characteristics of diamagnetic substance and ferromagnetic substances. Write down Currie-Weiss Law and state its physical interpretation.
- (4) Define superconductivity. What is penetration depth. what is Meissner effect. What is the basic different between Type I and type II superconductors.



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Seva Bharati Mahavidyalaya

Internal assessment-2019 , SESSION: 2019-2020

Course: GE-1-IA Subject: Physics

Marks-10 = 5×2 Time -30 mins

SEM -1 JULY - DECEMBER

Any Five : To the point only

১) $\psi = A \cdot e^{ik \cdot x}$ ও $\psi = 0$ $|x| > a$ যদি ψ normalized wave function হয় তবে A ধ্রুবকটির মান কত ?

২) নিউক্লিয়াসের বন্ধন শক্তি ও ভরসংখ্য লেখচিত্রটি দেখাও এবং গুরুত্ব লেখ।

৩) 4950 Å তরঙ্গদৈর্ঘ্যের ফোটনের শক্তি eV এককে লেখ এবং ভরবেগ বাহির কর।

৪) প্রোটনের ও নিউট্রনের ভর হয় 1.6×10^{-27} kg নিউক্লিয়াসের ও জলের ঘনত্বের অনুপাত বাহির কর (ভরসংখ্য = A)

৫) নিউট্রনের ভর 1.6×10^{-27} kg ও 5×10^6 গতিবেগ সম্পন্ন হলে position uncertainty নির্ণয় কর।

৬) পরিবর্তিত তরঙ্গদৈর্ঘ্য নির্ণয় কর যখন ফোটন 180° কোণে বিক্ষেপিত হয়।

$$h = 6.6 \times 10^{-34} \text{ J-s}, c = 3 \times 10^8 \text{ m/s}, m_e = 9.1 \times 10^{-31} \text{ kg}$$

৭) একটি টাংস্টেন ফিলামেন্ট 3300K তাপমাত্রায় জ্বললে (glowing) Wien-এর সূত্রনুসারে ফিলামেন্টের তরঙ্গদৈর্ঘ্য নির্ণয় কর।



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Seva Bharati Mahavidyalaya

Internal assessment-2019, SESSION : 2019-2020

Course: CC-1-IA Subject: Physics

Marks-10 =5×2 Time -30 mins

SEM -1 JULY - DECEMBER

Any Five: To the point only

- ১) একটি তারের বিকৃতির দরুন কৃতকার্যের রাশিমালা নির্ণয় কর।
- ২) একটি সলিড গোলকের যে কোনো ব্যসের সাপেক্ষে জাড্য ভ্রামক নির্ণয় কর।
- ৩) Lorentz Transformation- এর সমীকরণ গুলি লেখ ।
- ৪) 0.5 মি দৈর্ঘ্যের এবং 1 মিমি ব্যসের তারের একপ্রান্ত স্থির । যদি 0.43 নিউটন মিটার টর্ক প্রয়োগ করে তাকে 45° কোনে বাঁকানো হল । তারের দৃঢ়তা গুনাঙ্ক নির্ণয় কর।
- ৫) $\phi(x,y,z) = xy^2+4.yz^2$ হলে $\nabla\phi$ এর মান বাহির কর (2,1,0) বিন্দুতে ।
- ৬) মুক্তি বেগ কি ? এর রাশিমালা বাহির কর
- ৭) ভূসমলয় উপগ্রহ কাকে বলে ? GPS বলতে কি বোঝ ।



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Seva Bharati Mahavidyalaya

First internal assessment - 2019, SESSION: 2019-2020

CE-3

Semester - III

Physics

Paper : ~~GE-3~~ DSE-1C

ANSWER ANY FIVE QUESTIONS:

2×5 = 10

- (1). C_v অপেক্ষা C_p বড় কেন ?
- (2). প্রমাণ করো একটি কার্নো ইঞ্জিনের কর্মদক্ষতা $\eta = 1 - (T_2/T_1)$
- (3). T- S লেখচিত্রে আদর্শ গ্যাসের i) সমোষ্ণ পরিবর্তন ii) রুদ্ধতাপ পরিবর্তন 3) সমচাপী পরিবর্তন এবং iv) সম আয়তন পরিবর্তন চিহ্নিত করো?
- (4). গ্যাসের অনুগুলির গড় বর্গবেগ এর বর্গমূল বলতে কি বুঝায়?
- (5). জুল টমসন শীতলীকরণ ও রুদ্ধতাপ শীতলীকরণ এর মধ্যে পার্থক্য লেখ।
- (6). আদর্শ গ্যাসের ক্ষেত্রে প্রমাণ কর যে, $C_p - C_v = R$ ব্যবহৃত চিহ্নগুলি প্রচলিত অর্থবহ।
- (7). সর্বাপেক্ষা সম্ভাব্য গড় বেগ এবং r.m.s বেগের মধ্যে সম্পর্ক লেখ।



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SEVA BHARATI MAHAVIDYALAYA

2nd INTERNAL ASSESSMENT: - 2019 , SESSION : 2018-2019

2ND SEMESTER

Sub: PHYSICS

Paper- GE 2

F.M-10

ANSWERS ANY FIVE QUESTIONS

TIME-30 min.

- (1) Write down the first law and second law of thermodynamics.
- (2) Write down the expression of Gibbs free energy and Helmholtz energy using proper identical meaning.
- (3) Prove that, $C_p - C_v = \gamma$, using their usual meaning.
- (4) What is difference between simple adiabatic expansion and Joule Thomson expansion?
- (5) Why can hydrogen and helium not liquefy by the Joule-Thomson effects?
- (6) Derive the Clausius Clapeyron equation.
- (7) What is triple point? What is the value of it for water?

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Kapgari, Jhargram, West Bengal

Internal Assessment-2019

B.Sc. (CBCS-DSC) **4B**

CC-2, SESSION: 2018-2019

Sub: Physics

Paper – Electricity AND Magnetism

F.M. - 10

5×2

Answer any 5 question

Time – 30 mins

- ১) একটি capacitor-কে V ভোল্টেজ এবং q আধানে আহিত করা হলে capacitor-এর সঞ্চিত শক্তির রাশিমালা নির্ণয় কর।
- ২) তড়িৎ বিভব এবং তড়িৎ ক্ষেত্র-র সংজ্ঞা লেখ।
- ৩) 8 cm. দৈর্ঘ্যের 50 unit CGS মেরুশক্তি কোনো চুম্বককে স্থির অবস্থা থেকে 60° কোণে আবর্তিত কত কৃতকার্য করতে হবে? $H = .36 \text{ oe}$
- ৪) দেখাও যে $\nabla^2 r^n = n(n+1)r^{n-2}$
- ৫) গাউসের উপপাদ্যটি ছবিসহ বিবৃত কর।
- ৬) লেঞ্জর তড়িৎচুম্বকীয় আবেশ সংক্রান্ত সূত্রগুলি লেখ।
- ৭) তড়িৎ বলরেখা চুম্বক বলরেখার পার্থক্যগুলি লেখ।

23.03.19

C. Bujec
23.03.19



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Kapgari, Jhargram, West Bengal

Internal Assessment-2019, **SESSION : 2018-2019**

B.Sc.(CBCS-GE-4)

Sub:Physics

Paper – Electricity AND Magnetism (GEET)

F.M. - 10

5×2

Answer any 5 question

Time – 30 mins

- ১) একটি capacitor-কে V ভোল্টেজ এবং q আধানে আহিত করা হলে capacitor-এর সঞ্চিত শক্তির রাশিমালা নির্ণয় কর।
- ২) বায়ো-সভাট সূত্রটি বিবৃত কর।
- ৩) 8 cm. দৈর্ঘ্যের 50 unit CGS মেরুশক্তি কোনো চুম্বককে স্থির অবস্থা থেকে 60° কোণে আবর্তিত কত কৃতকার্য করতে হবে? $H = .36 \text{ oe}$
- ৪) দেখাও যে $\nabla^2 r^n = n(n+1)r^{n-2}$
- ৫) গাউসের উপপাদ্যটি ছবিসহ বিবৃত কর।
- ৬) প্রমাণ কর $M \leq \sqrt{L_1 L_2}$
- ৭) পয়েন্টিং ভেক্টর কাকে বলে? এর তাৎপর্য লেখ



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যে কোন ৫টি প্রশ্নের উত্তর দাও।

- বকোলের সতিসারকণ্ড ব্যবহৃত সলীকরণটি লেখ।
- 0.02 sq cm প্রস্থচ্ছেদ এক 2 m দৈর্ঘ্যের তারটি সুক্ষ্ম হীরের তরঙ্গ 0.06 cm প্রসারিত করতে কাজ করতে হবে? $\gamma = 2 \times 10^{12}$ e.s unit.
- বৃহৎক্ষতি গ্রহের সূক্ষ্মবেগ নির্ণয় কর।
 $G = 6.67 \times 10^{11}$ s.I unit. বৃহৎক্ষতির ব্যাসার্ধ
 $= 71,300$ km. $M = 1.87 \times 10^{27}$ kg.
- যদি $\vec{A} = 4\hat{i} - 6\hat{j} - 3\hat{k}$, $\vec{B} = 4\hat{i} + 3\hat{j} - \hat{k}$ এক।
 $\vec{C} = \hat{i} - 3\hat{j} + 2\hat{k}$ থেকে ভিন্নতা-সম্বন্ধীয় হয়,
 তাহলে m এর মান নির্ণয় কর।
- লম্বা তরঙ্গ আয়তনের উপলব্ধি-বিবৃত্ত কর।
- প্রমাণ কর, $\vec{v} \cdot \left(\frac{\vec{r}}{r^3} \right) = 0$
- দেখাও, একক আয়তনে বিকৃতির এনে ফলস্বরূপ
 $= \frac{1}{2} \times$ পীড়ন \times বিকৃতি,
- স্বতন্ত্রীয় স্রাবকের একক ও মান নির্ণয় কর।
- দেখাও, পর্যায়কাল অনুসারে - 2 থেকে $\pi/2$
 এর মধ্যে মাত্র এক,
 একক নির্ণয় প্রমাণের সূত্র ব্যবহার করে
 মান নির্ণয় কর।



Seva Bharati Mahavidyalaya

Internal assessment-2018 , SESSION : 2018-2019 .

Course: GE-1-IA Subject: Physics

Marks-10 =5*2 Time -30 mins

Any Five: To the point only

- ১) একটি তেজস্ক্রিয় পদার্থের অর্ধায়ু ২ বছর। ১ গ্রাম ঐ পদার্থের ৬ বছর পরে কত অংশ অপরিবর্তিত থাকবে?
- ২) একটি প্রোটনের ডি-ব্রয় তরঙ্গদৈর্ঘ্য নির্ণয় কর। প্রোটনের গতিশক্তি = 70 Mev
- ৩) $\psi = A \cdot e^{ik \cdot x}$ $|x| \leq a$ ও $\psi = 0$ $|x| > a$ যদি ψ normalized wave function হয় তবে A ধ্রুবকটির মান কত?
- ৪) নিউক্লিও বিয়োজন সমীকরণ সহ লেখ।
বিয়োজন (fission)
- ৫) নিউট্রনের ভর $1.6 \cdot 10^{-27}$ kg ও $5 \cdot 10^6$ m/s গতিবেগ সম্পন্ন হলে position uncertainty নির্ণয় কর।
- ৬) পরিবর্তিত তরঙ্গদৈর্ঘ্য নির্ণয় কর যখন ফোটন 580° কোণে বিক্ষেপিত হয়।
 $h = 6.6 \cdot 10^{-34}$ j-s, $c = 3 \cdot 10^8$ m/s, $m_e = 9.1 \cdot 10^{-31}$ kg
- ৭) বোর কক্ষপথ কে স্থির কক্ষপথ বলে কেন?



C. Banerjee.

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