



ଜଣେ ସେଲ୍‌ପି କର୍ନର ବିଜେତାଙ୍କୁ ପୁରସ୍କତ କରୁଛନ୍ତି ଧରିତ୍ରୀ ମୁଖ୍ୟ କାର୍ଯ୍ୟନିର୍ବହି ଆଦ୍ୟାଶା ସତପଥୀ । ନିକଟରେ ଅଛନ୍ତି ଏଯାରଟେଳ ଓଡ଼ିଶାର ଚେରିଗୋରି ସେଲ୍‌ସ ମ୍ୟାନେଜର ରିଷ୍ଟାକ୍ଟ ବିଶ୍ୱାଳ (ବାମ) ଓ ମଞ୍ଚ ପରିଚାଳିକା ଶୋଭନା ମିଶ୍ର ।

ଧରିତ୍ରୀ ସମ୍ପାଦକ ତଥାଗତ ସତପଥୀ ଜଣେ ବିଜେତାଙ୍କୁ ପୁରସ୍କାର ଭାବେ ଶ୍ଵାର୍ଚଫୋନ୍ ପ୍ରଦାନ କରୁଛନ୍ତି । ନିକଟରେ ଅଛନ୍ତି ରିଲାଏମ୍‌ବୁ ଜୀଓ ପାଇବର ବିଜ୍ଞନେସ ମ୍ୟାନେଜର (ଓଡ଼ିଶା) ଯୌମେଶ ପତ୍ତି ଓ ଧରିତ୍ରୀର ତାଳରେକ୍ତର (ମାର୍କେଟ୍ଟିଂ) ହିମାଶୁ ହୋତା ।



ଯେଲୁପି କର୍ମର ବିଜେତାମାନଙ୍କ ସହ ଧରିବା ସମ୍ଭାଦକ ତଥାଗତ ସତପଥୀ, ମଣ୍ଡ୍ୟ କାର୍ଯ୍ୟନ୍ତିର୍ବାହୀ ଆଦ୍ୟାଶା ସତପଥୀ ଓ ଅନ୍ୟମାନେ ।



ଜଣେ ସେଲାଟି କର୍ନର ବିଜେତାଙ୍କୁ ପୁରସ୍କାର କରୁଛନ୍ତି ‘ଚେକ୍ ଆଞ୍ଚ’ର ମୋହମ୍ମଦ ଖୁସାନ୍ଦାର ମହିମାମଳା !

‘ମୁଦ୍ରଣିକାଙ୍କ ପାଇଁ ଏ ପୂର୍ବତୀ ଚାକିଟି’

ଭୁବନେଶ୍ୱର, ୨୨ |୧୨ (ବ୍ୟଗ୍ରୋ)

ଧରିବ୍ରା ପକ୍ଷରୁ ଏହାର 'ସେଲଟ୍ କର୍ନର' ବିଜେତାଙ୍କ ପାଇଁ
ଶମିନାର ପୁରୁଷଙ୍କର ପ୍ରଦାନ ଉତ୍ସବ ଅନୁଷ୍ଠାତ ହୋଇଯାଇଛି।
ଦ ପ୍ରେସ୍ କୁଣ୍ଡ ଅଥ୍ ଓଡ଼ିଶା ପରିସରରେ ଆୟୋଜିତ ଏହି
ସ୍ଵତନ୍ତ୍ର ଉତ୍ସବରେ ନଭେମ୍ବର ମାସର ବିଜେତାଙ୍କୁ ପୁରୁଷୁତ
କରାଯାଇଛି। ପୁରୁଷଙ୍କ ବାବଦରେ ପ୍ରତିବିଜେତାଙ୍କୁ 'ଚେକ
ଆଣ୍ଟ' ପକ୍ଷରୁ ଏକ ଲ୍ଲାର୍ଟଫୋନ୍ ପ୍ରଦାନ କରାଯାଇଥିଲା।
ଏହା ସହ ଏଯାରଟେଲ୍ ପକ୍ଷରୁ ଏକ ମାସର ଅନ୍ତିମିଟରେ
ଡାଟା ଓ ଅନ୍ତିମିଟରେ କଲ୍ ଥୁବା ଗୋଟିଏ ସିମକାର୍ଡ
ଦିଆଯାଇଥିଲା। ମଞ୍ଚରେ 'ଧରିବ୍ରା' ଏବଂ 'ଓଡ଼ିଶା ପୋଷ୍ଟ'
ସାମାଦକ ଡଥାଗତ ସତପଥୀ, ମୁଖ୍ୟ କାର୍ଯ୍ୟନିର୍ବାହ
ଆଦ୍ୟାଶା ସତପଥୀ, ତାଳେରକୁର(ମାର୍କେଟ୍) ହିମାଙ୍ଗୁ
ହୋଇବା, 'ଚେକ ଆଣ୍ଟ'ର ଜ୍ଞାନାଳ ମ୍ୟାନେଜର ସୁମିତ
ପଢିନାୟକ, ଏଯାରଟେଲ୍ ଓଡ଼ିଶାର ଚେରିଗାରି
ସେଲଟ୍ ମଧ୍ୟାନେଜର ରିଷ୍ଟିକ୍ଟ ବିଶ୍ୱାଳ ପ୍ରମୁଖ
ଉପସ୍ଥିତ ରହି ବିଜେତାଙ୍କୁ ପୁରୁଷୁତ କରିଥିଲେ।

ଧରିବୁ ସମ୍ପାଦକ ସତପଥୀ କଥିଥୁଲେ ଯେ,
ଯୁବପିତ୍ରିଙ୍କ ପାଇଁ ଏ ପୃଥ୍ବୀ ଗଲିଛି । ତେଣୁ ଧରିବୁ
ସବୁରେଳେ ଯୁବପିତ୍ରିଙ୍କ ପଥ୍ୟ ନାପସନ୍ଦକୁ ପାଥମିକତା

ଦେଇଅସିଛି । ବର୍ଷମାନର ପିତ୍ରଙ୍କ ପାଇଁ ନିଯୋଜିତ ରହିବାକୁ ଧିତ୍ରୀର ଚେଷ୍ଟା ଓ ପ୍ରୟାସ ରହିଛି । ଆଜିକାର ପାଠକମାନେ କେବଳ ରାଜନ୍ୟ, ବାଣିଜ୍ୟ କିମ୍ବା ଅପରାଧ ଖରରେ ଆଗ୍ରହୀ ମୁହଁତି । ଏହାସହ ଜୀବନର ଶୌଭର୍ଯ୍ୟ ରହିବା ନିଶ୍ଚାନ୍ତ ଆବଶ୍ୟକ ।

ମୁଖ୍ୟ କାର୍ଯ୍ୟନିର୍ବାହୀ ଆଦ୍ୟାଶା ସତପଥୀ କହିଲୁଣେ
ଯେ, ଯେଉଁମାନେ ବି ସେଲାଏଁ କରିବ ମୁଗ୍ଧାର ଜିଛିଛି
ସେମାନେ ବସୁତ ଭାରିଯାଇଲା । ପ୍ରତିଦିନ ଆମପାଖା
ବସୁତାତ୍ତ୍ଵରେ ସେଲାଏଁ ଆସୁଛି । ସେଥୁ
ଅଳ୍ପକଷ୍ଟ ଚନ୍ଦନ କରି ଖବରକାଗଜରେ
ଛାପିରା ଓ ପୁଣି ସେଥାରୁ ପ୍ରତିଦିନ
ଗୋଟିଏ ଗୋଟିଏ ବିଭିନ୍ନ ବାହିନୀ
ଆମ ମାତ୍ର କଷବର ଦୋଷମନ୍ତରେ

ଥାମ ପାଇ କଷ୍ଟକର ଧ୍ୟାନପୁଣ୍ୟ
ଉଦ୍‌ବନ୍ଧ ମନୋରଜନଧିତ
କରିବା ପାଇଁ ରଙ୍ଗରଙ୍ଗ ସାଞ୍ଚିତି
କାର୍ଯ୍ୟକ୍ରମ ଆୟୋଜିତ ହୋଇଥିଲା
କଷ୍ଟଶିଳ୍ପୀ ସୃତିମାୟୀ ମହାପାତ୍ର
ଓ ବିଭୂ ପ୍ରସାଦ ମହାରଣୀ ଏବଂ
ଅବସରରେ ମନଭୂତୀଁ ଓଡ଼ିଆ
ଓ ହିମୀ ସଞ୍ଚାତ ପରିବେଶରେ
କରିଥୁଲେ, ଯାହାର ତାଳେ ତାମେ

ଉପରୁତେ ବିଜେତା ଓ ସେମାନଙ୍କ ସାଙ୍ଘାଠୀ ସମ୍ପର୍କୀୟମାନେ ନାଚିବା ସହ ଭରପୂର ଉପଭୋଗ କରିଥିଲେ । ଶୋଭନା ମିଶ ମଞ୍ଚ ପରିଚାଳନା କରିଥିଲେ ।



ପାର୍ଶ୍ଵରେ ସମ୍ବନ୍ଧ ଯନ୍ତ୍ରିବେଷଣ କରୁଛନ୍ତି ସ୍ଥତିମାୟୀ ମହାପାତ୍ର ଓ ବିଭୂ ପ୍ରସାଦ ମହାରଣୀ।

୧ ସଙ୍ଗୀତ ସହ ତାଳ ଦେଇ ନୃତ୍ୟରତ ସେଲପି ଜନ୍ମିତ କିମୋଟିଏ ଥାଏଇ



Exam Mate



Mock Test Paper for Std X, XII CBSE Board, IIT - JEE Main & Advanced.

FOR ANSWERS VISIT : www.dharitri.com

MOCK TEST PAPER # 2 CLASS-XII (PHYSICS)

Time Allowed : 3 hours

Maximum Marks: 70

GENERAL INSTRUCTIONS

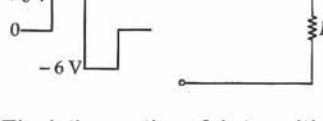
- All questions are compulsory. There are 27 questions in all.
- This question paper has five sections : Section A, Section B, Section C and Section D.
- Section A contains five questions of one mark each, Section B contains seven questions of two marks each, Section C contains twelve questions of three marks each, Section D contains three questions of five marks each.
- There is no overall choice. However, an internal choice has been provided in one question of two marks, one question of three marks and all the three questions of five marks weightage. You have to attempt only one of the choices in such questions.

SECTION-A

- Why are alloys used for making standard resistance coils ?
- How does focal length of a lens change when red light is replaced by blue light ?
- Name the series of hydrogen spectrum lying in the infrared region.
- Would sky waves be suitable for transmission of TV signals of 60 MHz frequency ?
- What is the colour code for a resistor of resistance $3.5 \text{ k}\Omega$ with 5% tolerance ?

SECTION-B

- What is meant by the statement that the electric field of a point charge has spherical symmetry whereas that of an electric dipole is cylindrically symmetric?
- What is an ideal diode ? Draw the output waveform across the load resistor R, if the input waveforms is as shown in the figure.



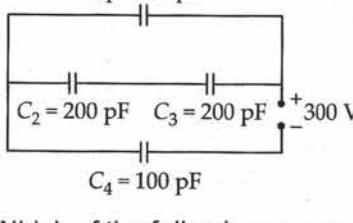
- Find the ratio of intensities of two points P and Q on a screen in Young's double slit experiment when waves from sources S_1 and S_2 have phase difference of (i) 0° and (ii) $\pi/2$ respectively.
- Two conductors are made of the same material and have the same length. Conductor A is solid wire of diameter 1 mm. Conductor B is a hollow tube of outer diameter 2 mm and inner diameter 1 mm. Find the ratio of resistance R_A and R_B .

OR

- The current sensitivity of a moving coil galvanometer increases by 20% when its resistance is increased by a factor 2. Calculate by what factor the voltage sensitivity changes.
- A coil of 0.01 H inductance and 1Ω resistance is connected to 200V, 50 Hz ac supply. Find the impedance of the circuit and time lag between maximum alternating voltage and current.
 - Why photoelectric effect cannot be explained on the basis of wave nature of light.
 - Answer the following points: Why is the binding energy per nucleon found to be constant for nuclei in the range of mass number (A) lying between 30 and 170?

SECTION-C

- Obtain equivalent capacitance of the following network. For a 300 V supply, determine the charge and voltage across each capacitor.



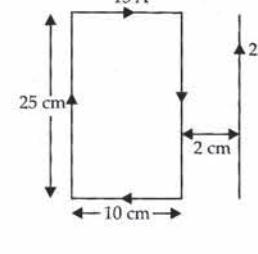
- Which of the following waves can be polarised ? (i) X-rays (ii) Sound waves. Give reasons. Two polaroids are used to study polarisation. One of them (the polariser) is kept fixed and other other (the analyser) is initially kept with its axis parallel to the polariser. The analyser is then rotated through angles of 45° , 90° and 180° in turn. How would the intensity of light coming out of analyser be affected for these angles of rotation, as compared to the initial intensity and why ?
- Illustrate the basic elements required for transmitting and receiving an audio signal with the help of a block diagram.
- Write the mathematical relation for the resistivity of a material in terms of relaxation time, number density and mass and charge of charge carriers in it. Explain, using this relation, why the resistivity of a metal increases and that of a semiconductor decreases with rise in temperature.
- A source contains two phosphorus radionuclides ^{32}P ($T_{1/2} = 14.3$ days) and ^{33}P ($T_{1/2} = 25.3$ days). Initially 10% of the decays come from ^{33}P . How long one must wait until 90% do so ?

- The two plates of a parallel plate capacitor are 4 mm apart. A slab of dielectric constant 3 and thickness 3 mm is introduced between the plates with its faces parallel to them. The distance between the plates is so adjusted that the capacitance of the capacitor becomes $(2/3)^{\text{rd}}$ of its original value. What is the new distance between the plates.

OR

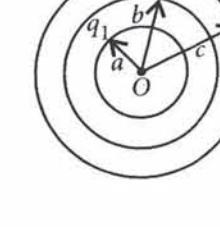
Define the term electric potential due to a point charge. Find the electric potential at the centre of a square of side $\sqrt{2} \text{ m}$, having charges $100\mu\text{C}$, $-50\mu\text{C}$, $20\mu\text{C}$ and $-60\mu\text{C}$ at the four corners of the squares.

- How would you establish an instantaneous displacement current of 2.0 A in the space between the two parallel plates of $1\mu\text{F}$ capacitor ?
- The figures shows a rectangular current carrying loop, placed 2 cm away from a long straight, current carrying conductor. What is the direction and magnitude of the net force acting on the loop ?



- Two lenses of powers $+15\text{D}$ and -5D are in contact with each other forming a combination lens.
(a) What is the focal length of this combination ?
(b) An object of size 3 cm is placed at 30 cm from this combination of lenses. Calculate the position and size of the image formed.
- (a) For what kinetic energy of a neutron will the associated de Broglie wavelength be $1.40 \times 10^{-10} \text{ m}$?
(b) Also find the de Broglie wavelength of a neutron, in thermal equilibrium with matter having an average kinetic energy of $\frac{3}{2}kT$ at 300 K.

- Why are de Broglie waves associated with a moving football not visible ? The wavelength λ of a photon and the de Broglie wavelength of an electron have the same value. Show that the energy of the photon is $\frac{2\lambda mc}{h}$ times the kinetic energy of the electron, where m , c and h have their usual meanings.
- Three concentric conducting spherical shells of radii a , b and c ($c < b > a$) carrying charges q_1 , q_2 and q_3 respectively are arranged as shown in the figure. What is the value of electrostatic potential at the surface of three shells ? Which is higher ?



SECTION D

- What is induced emf ? Write Faraday's law of electromagnetic induction. Express it mathematically. A conducting rod of length l , with one pivoted, is rotated with a uniform angular speed ω in a vertical plane, normal to a uniform magnetic field B . Deduce an expression for the emf induced in this rod. In India, domestic power supply is at 220 V, 50 Hz, while in USA it is 110 V, 50 Hz. Give one advantage and one disadvantage of 220 V supply over 110 V supply.

OR

- Explain the phenomenon of self induction. Define coefficient of self inductance. What are its units? Calculate self inductance of a long solenoid.
- (a) With the help of a circuit diagram explain the working of transistor as oscillator.
(b) Draw a circuit diagram for a two inputs OR gate and explain its working with the help of input, output waveforms.

OR

- Define the terms potential barrier and depletion region for a p-n junction. Explain with the help of a circuit diagram, the use of a p-n diode as a full wave rectifier. Draw the input and output wave forms.
- Define magnifying power of an optical telescope. Draw a ray diagram for an astronomical refracting telescope in normal adjustment showing the paths through the instrument of three rays from a distant object. Derive an expression for its magnifying power. Write the significance of diameter of the objective lens on the optical performance of a telescope.

OR

- State Huygens principle and prove laws of reflection and refraction on the basis of Huygens principle.

For Answers visit: www.dharitri.com

NATIONAL ADMISSION cum SCHOLARSHIP TEST ON 30th DECEMBER 2018

(FOR CLASS VII, VIII, IX, X, XI & XII STUDENTS) Ph. No. 0674 - 2421400, 2421800, 85990 87100 / 85990 87200

Preparation For:-IITJEE Main & Advanced, Medical (NEET / AIIMS), KVPY, Olympiad, NTSE & Board.

