AUTUMN BREAK

HOLIDAYS HOMEWORK

SUB: PHYSICS **CLASS : XII A**

Q1. Find the condition for resonance in a series LCR circuit connected to a source V=Vmsin wt, where w can be varied. Give the factors on which the resonant frequency of a series LCR circuit depends. Plot a graph showing the variation of electric current with frequency in a series LCR circuit.

Q2. Explain with the help of a labelled diagram, the principle and working of an ac generator. Write the expression for the emf generator in the coil in terms of speed of rotation. Can the current produced by an ac generator be measured with a moving coil galvanometer?

Q3. (a) Describe briefly, with the help of a labelled diagram, the working of step up transformer.

(b) Write any two sources of energy loss in a transformer.

(c) A step up transformer converts a low voltage into high voltage. Does it not violate the principle of conservation of energy? Explain.

Q4. How is the speed of EM-waves in vacuum determined by the electric and magnetic field?

Q5. In which directions do the electric and magnetic field vectors oscillate in a electromagnetic wave propagating along the x-axis?

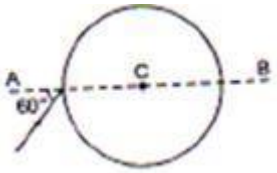
Q6. The amplitude of the magnetic field of a harmonic electromagnetic wave in vaccum is Bo = 510 nt. What is the amplitude of the electric field part of the wave?

Q7. Name the electromagnetic radiations used for (a) water purification and (b) eye surgery.

Q8. When light travels from an optically denser medium to a rarer medium, why does the critical angle of incidence depend on the color of light?

Q9.How does the angle of minimum deviation of a glass prism vary, if the incident violet light is replaced by red light?

Q10. A ray of light falls on a transparent sphere with centre at C as shown in figure. The ray emerges from the sphere parallel to line AB. The refractive index of the sphere is:



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Q11. For the same angle of incidence, the angles of refraction in two media A and B are 25^{o} and 35^{o} respectively. In which one of the two medium is the speed of light lesser?

Q12. An object is placed in front of a converging lens. Obtain the conditions under which the magnification produced by the lens is (i) negative and (ii) positive.

CLASS : XI A SUB : PHYSICS

1. Write the dimension formula of

i) Coefficient of elasticity
ii) Gravitational constant
iii) Planck's constant
iv) Radius of Gyration
v) Time period
vi) Moment of inertia
vii) Angular Acceleration
viii) Impulse
ix) Momentum
x) Speed
xi) Pressure
xii) stress

2. Project work : select any six topic from the following :
3. Also make a chart on any one topic from:

i) Collect ten examples of conservation of angular momentum from daily life
ii) Quote ten examples of moment of inertia from daily life
iii) Write fifty dimensional formulae of various physical quantities.
Deduce an expression for:---
iv) Time of flight of projectile
v) Maximum height of projectile
vi) Horizontal range of projectile
vii) Trajectory of projectile is parabola
viii) Uniform circular motion
ix) Three equations of motion with the help of integral calculus.
x) Graphical derivation of Three equations of motion.
xi) Elastic collision in one dimension.
xii) Motion of a car on a leveled road,banked road.
xiii) Work energy theorem.
xiv) Moment of inertia of eight rigid bodies.
xv) Conversion of one system of units into another.
xvi) Establishing a dimensional formulae between different physical quantities.
xvii) Parallelogram law of vector addition.
xviii) Total energy(P.E +K.E) is conserved.
xix) Differentiate between conservative and non-conservative force.

CLASS : VIII A,VIII B SUB : SCIENCE

1)Calculate the full height (reaching the age of adolescence)of all the students in your class after the growth period.

2) Draw diagram with proper labeling, showing sex determination in humans.

3) Sketch a diagram showing position of endocrine glands in the human body.

4) Explain the benefits of consuming iodized salt?

5) Write about Myths, Taboos ,Do ’s and Don’t’ s.

6) write about adolescent pregnancy?