YEAR 13 A/ B –PHYSICS

WEEK 12 (15th November to 19th November) (3 lessons)

Work sent to the students through: Google classroom / Zoom Learning Platform

Topic: 10- Nuclear Radiation

Date	Class	Lesson	Lesson objectives & Learning outcome	Mode of teaching	
16th Nov Monday **17th Nov Tuesday**	**13 B** **13A**	**6** **4**	**Learning objectives**: and recognise and use the expressions for radioactive decay: **dN/dt =-λN,** **Learning Outcomes** : Define and use the quantities activity and decay constant. Select and apply the equation for activity dN/dt = A = λN.	**Zoom**	Teacher uses power point presentation and breakout sessions for students to collaborate and attain the objectives.
16th Nov Monday **19th Nov Thursday**	**13 B** **13A**	**7** **1**	**Learning objectives**: recognise and use the expressions for radioactive decay: $N = N_0 e^{-\lambda t}$ **Learning Outcomes** : Select and apply the equations $A = A_0e^{-\lambda t}$ and $N = N_0e^{-\lambda t}$ where A is the activity and N is the number of undecayed nuclei	**zoom**	Teacher uses power point presentation and breakout sessions for students to collaborate and attain the objectives.
18th Nov Wednesday **19th Nov Thursday**	**13 B** **13 A**	**3** **2**	**Learning objectives**: Define and apply the term half-life. **Learning Outcomes** : Simulation of radioactive decay using, for example, dice Appreciate the random nature of radioactive decay Describes the nature of exponential decay, explaining how it takes the same time for the number of atoms to decrease by the same fraction.	**zoom**	. https://www.random.org/dice/ for virtual dice rolling and collecting data.

YEAR 13 A/ B –PHYSICS

WEEK 12 (15th Nov to 19th Nov) - 3 lessons for both batches

Work sent to the students through: Whatsapp group / Google classroom / Zoom Learning Platform

Topic: - 7.3 – Magnetic fields

Resources: Student text book, interactive power point, Board works, worksheet file and online videos/animations

Date	Lesson	Lesson objectives & Learning outcome	Mode of teaching	
16th Nov Monday **- 13 A** 17th Nov Tuesday **- 13 B**	1 6	**L.O –** Derive the expression for the Hall voltage, $V_H = \frac{BI}{ntq}$ where *t* = thickness **Learning outcomes-** • Discuss the nature and origin of the Hall effect. • Discuss the structure of the Hall probe and deduce how it works • Discuss the need for calibration and introduce the expression given.	**Zoom**	Explain the Hall effect is used in the determination of magnetic flux densities. Worksheet given with examples to practise applying the formula.
16th Nov Monday **- 13 A** 19th Nov Thursday **- 13 B**	2 3	**L.O –** Understand the factors affecting the e.m.f induced in a coil when there is relative motion between the coil and a permanent magnet **Learning outcomes-** • Define electromagnetic induction and compare it with motor effect in terms of energy changes. • Identify the factors affecting the e.m.f induced in a coil when there is relative motion between the coil and a permanent magnet • Use Fleming's Right Hand Rule to predict the direction of induced current • Identify the factors affecting the e.m.f induced in a coil when there is a change of current in another coil linked with this coil.	**Zoom**	Teacher uses ppt and board works that contains interactive questions and online simulation to explain the concept of electromagnetic induction. Discuss the use of Fleming's right hand rule to predict the direction of induced current

17th Nov Tuesday - **13 A** 19th Nov Thursday - **13 B**	5 4	**Learning Objective:** Understand how to use Faraday's law to determine the magnitude of induced emf and use the equation that combines Faraday's law and Lenz's law. **Learning Outcome:** • Realise that induced e.m.f is proportional to rate of change of flux and acts opposite to the change. • Use the expression $\varepsilon = - d\Phi/dt$ and explain how it is a consequence of Faraday's and Lenz's laws. • Derive $\varepsilon = B(dA/dt) = BLv$ for a wire moving across a field.	**Zoom**	Teacher uses ppt, board works and online simulation to explain Faraday's law and Lenz's law. Emphasise throughout the discussions that the induced e.m.f. only exists while the flux linkage is changing

HOMEWORK: Complete the textbook Qs: Page 72 and worksheet file questions