LESSON PLAN-1 T1-Session 2015-2016

For the 3rd Week of March	<i>Objectives</i> (Concepts & Skills)	Learning Outcomes	Instructional Tools & References	Pedagogy	Activity / Assignment / Projects	Assessment of Learning Outcomes	FA / SA Syllabus
<u>Class</u> : IX <u>Subject</u> : Physics <u>Theme</u> : <u>Motion</u> <u>Periods</u> : (7) Theory: (7) Practical:(0)	 Concept of physical quantities Basic concept of motion and rest Concept of uniform and non- uniform motion Concept of Speed ,average speed and velocity. Basic concept of acceleration Basic concept of V-t and S-t graphs Textbook Numerical problems related to the topic. Skills: (Scientific Aptitude) (Content of Knowledge) (Presentation) (Correctness) (Thinking skills) (Reasoning Skills) (Attentiveness) (Listening Skills) (Drawing skill) 	Make it sure that the student learns the concepts given. Physical quantities are of two types.(scalar and vector). Motion and rest are relative terms. Difference between scalar and vector quantities. Distance is the total path covered and displacement is shortest path. Difference in speed and velocity. Able to calculate speed, velocity and acceleration of the moving body Plotting of graph between different quantities.	In addition to general teaching tools like white board, marker, etc, the teacher will use toy cars, odometer. Speedometer. The References used will be : -Conceptual Physics by Paul Hewit -Science and Technology Text Book for class IX. -	Activating Prior Knowledge by Random Questioning Introducing the topic to be taught after getting the expected response from the students. Developing hypothesis by : Brainstorming Lecture Discussion In Text Questions	Home Assignments: The areas of assessment will be: (Regularity) (Content of Knowledge) (Presentation) (Correctness) (Thinking skills)	Chart Making: The areas of assessment will be: (Time Management) (Presentation) (Correctness)	FA Syllabus:Physicalquantities.(Scalar andvector).Motion andrest.Speed andvelocityAccelerationand graphs(S-t and V- t)TextbookNumericalproblemsrelated tothe topic.SA SyllabusSame as FA

LESSON PLAN-2 T1-Session 2015-2016

For the 1 st Week of April	<i>Objectives</i> (<i>Concepts & Skills</i>)	Learning Outcomes	Instructional Tools & References	Pedagogy	Activity / Assignment / Projects	Assessment of Learning Outcomes	FA / SA Syllabus
<u>Class</u> : IX <u>Subject</u> : Physics <u>Theme:</u> Motion <u>Periods</u> : (4) Theory: 23) Practical:(2)	 Basic Concept of equations of motion Concept of Derivation of equations of motion by graphic method. Basic concept of uniform circular motion and angular velocity Textbook Numerical problems related to the topic. <u>Skills</u>: (Scientific Aptitude) (Content of Knowledge) (Presentation) (Drawing skill) (Correctness) (Thinking skills) (Reasoning Skills) (Attentiveness) (Listening Skills) 	 Make it sure that the student learns the concepts given. V = u + at, S = ut + ¹/₂at². and v² - u2 = 2aS Derivation of above mentioned equations by graphic method. Able to calculate numerical related to equations. Definition of circular motion. And angular velocity. Uniform circular motion. Textbook Numerical problems related to the topic. 	General teaching tools like white board, marker, etc, The References used will be : -Conceptual Physics by Paul Hewit -Science and Technology Text Book for class IX. -	Activating Prior Knowledge by Random Questioning Introducing the topic to be taught after getting the expected response from the students. Developing hypothesis by : Lecture Discussion In Text Questions	Chart Making: The areas of assessment will be: (Time Management) (Presentation) (Correctness)	Home Assignments: The areas of assessment will be: (Regularity) (Content of Knowledge) (Presentation) (Correctness) (Thinking skills)	 FA Syllabus: > Equation s of motion > Uniform circular motion. > Textbook Numerical problems related to the topic.

LESSON PLAN-3 Session 2015-2016

For the 2 nd And 3 rd Weeks of April	Objectives (Concepts & Skills)	Learning Outcomes	Instructional Tools & References	Pedagogy	Activity / Assignment / Projects	Assessment of Learning Outcomes	FA / SA Syllabus
Class IX Subject Physics Physics <i>Theme</i> : Force and laws of motion. Periods: (5) Theory: (5) Practical:()	 Concept of force and its effects Concept of balanced and unbalanced force Concept of Ist law of motion. Concept of inertia Concept of inertia Skills: (Scientific Aptitude) (Content of Knowledge) (Presentation) (Correctness) (Thinking skills) (Reasoning Skills) (Attentiveness) (Listening Skills) 	 Make it sure that the student learns the concepts given. <i>Pull or push acting on a body</i> <i>Force can bring motion of a rested body.</i> <i>Force can change direction of motion of a moving body</i> <i>Force can change the shape of the body</i> <i>Resultant force on a body experienced by balanced forces should be zero and no displacement in the body.</i> <i>Definition of :</i> <i>Inertia of motion , inertia of rest and inertia of direction</i> <i>Textbook Numerical problems related to the topic.</i> 	In addition to general teaching tools like white board, marker, etc, the teacher will use (i)Wooden blocks of different sizes (ii) Spring balances of different ranges The References used will be : -Conceptual Physics by Paul Hewit -Science and Technology Text Book for class IX. -	Activating Prior Knowledge by Random Questioning Introducing the topic to be taught after getting the expected response from the students. Developing hypothesis by : Brainstorming Lecture Discussion In Text Questions	Oral Ouestions: The teacher will do it to assess the understanding of the topic by the students. The areas of assessment will include: (Listening Skills) (Clarity of concepts) (Communication skills) Chart Making: The areas of assessment will be: (Time Management) (Presentation) (Correctness)	Home Assignments: The areas of assessment will be: (Regularity) (Content of Knowledge) (Presentation) (Correctness) (Thinking skills) The teacher will assess any three relevant skills for FA.	 FA Syllabus: Force and its effects Balanced and unbalanced forces Laws of motion. Inertia Textbook Numerical problems related to the topic.

LESSON PLAN-4 T1-Session 2015-2016

For the 4 th Week of April	Objectives (Concepts & Skills)	Learning Outcomes	Instructional Tools & References	Pedagogy	Activity / Assignment / Projects	Assessment of Learning Outcomes	FA / SA Syllabus
Class : IX : Subject : Physics : Theme: Force and laws of motion. Periods: (4) Theory: (2) Practical: (2)	 Concept of second and third law of motion. Concept of momentum Concept of law of conservation of momentum Skills: (Scientific Aptitude) (Content of Knowledge) (Presentation) (Correctness) (Thinking skills) (Reasoning Skills) (Attentiveness) (Listening Skills) 	Make it sure that the student learns the concepts given. F = ma Quantity of motion of a body depends upon two factors 1.Mass 2.Velocity P = mv Recoiling of gun Action force and reaction forces are equal and opposite Momentum in system remains conserved Textbook Numerical problems related to the topic.	General teaching tools like white board, marker etc. The References used will be : -Conceptual Physics by Paul Hewit -Science and Technology Text Book for class IX. -	Activating Prior Knowledge by Random Questioning Introducing the topic to be taught after getting the expected response from the students. Developing hypothesis by : Brainstorming Lecture Discussion In Text Questions	Oral Ouestions: The teacher will do it to assess the understanding of the topic by the students. The areas of assessment will include: (Listening Skills) (Clarity of concepts) (Communication skills)	Home Assignments: The areas of assessment will be: (Regularity) (Content of Knowledge) (Presentation) (Correctness) (Thinking skills) The teacher will assess any three relevant skills for FA.	 FA Syllabus: > Second and third law. > Momentum > Conservation of momentum

LESSON PLAN-4 T1-Session 2015-2016

For the 2 nd Week of April	<i>Objectives</i> (Concepts & Skills)	Learning Outcomes	Instructional Tools & References	Pedagogy	Activity / Assignment / Projects	Assessment of Learning Outcomes	FA / SA Syllabus
Class: XSubject:Physics:Theme: ElectricityPeriods:(4)Theory:(2)Practical:(2)	 Concept of Resistors in series Derivation of R_s = R₁+ R₂+ R₃ Basic concept of Resistors in parallels I/R_s = I/R₁+ I/R₂ Different combinations of Resistros Skills: (Scientific Aptitude) (Content of Knowledge) (Presentation) (Correctness) (Thinking skills) (Reasoning Skills) (Attentiveness) (Listening Skills) 	Make it sure that the student learns the concepts given. Resistors in series $I_s = I_1 = I_2 = I_3$ $V = V_1 + V_2 + V_3$ Derivation of $R_s = R_1 + R_2 + R_3$ Basic concept of Resistors in parallels $V = V_1 = V_2 = V_3$ $I_s = I_1 + I_2 + I_3$ Derivation of $1/R_s = 1/R_1 + 1/R_2$ Textbook Numerical problems related to the topic.	In addition to general teaching tools like white board, marker, etc, the teacher will use (i)Apparatus for verifying: - law of combination of resistors in series (ii)law of combination of resistors in parallels The References used will be : -Conceptual Physics by Paul Hewit -Science and Technology Text Book for class X. -	Activating Prior Knowledge by Random Questioning Introducing the topic to be taught after getting the expected response from the students. Developing hypothesis by : Brainstorming Lecture Discussion In Text Questions	Oral Questions: The teacher will do it to assess the understanding of the topic by the students. The areas of assessment will include: (Listening Skills) (Clarity of concepts) (Communication skills) Chart Making: The areas of assessment will be: (Time Management) (Presentation) (Correctness)	Group Activity: The teacher will divide the students in groups to perform practical work in the lab and the areas of assessment may include (Teamwork) (Submission of practical notebook) (Observation skill), (Experimental skills), (Understanding skill-viva voce), (Analytical skills), (Knowledge Application) (Computational skills) (Drawing conclusions). The teacher will assess any three relevant skills for FA.	FA Syllabus: > Resistors in series > Derivation of $R_s = R_1 + R_2 + R_3$ > Resistors in parallels > Derivation of $1/R_s = 1/R_1 + 1/R_2$ > Different combinations of Resistros > Textbook Numerical problems related to the topic.

LESSON PLAN Session 2015-2016

For the 3rd	Objectives	Learning Outcomes	Instructional Tools	Pedagogy	Activity / Assignment / Projects	Assessment of Learning	FA / SA
Week of	(Concepts & Skills)		& References			Outcomes	Syllabus
March							

Class: XSubject:Physics: <i>Theme:</i> ElectricityPeriods:(3)Theory:(2)Practical:(1)	 Concept of Electric Charge and its properties. Basic concept of Electric current and its units. Basic concept of the components of Electric circuit & their symbols. Skills: (Scientific Aptitude) (Content of Knowledge) (Presentation) (Correctness) (Thinking skills) (Reasoning Skills) (Attentiveness) (Listening Skills) 	Make it sure that the student learns the concepts given. Charge is quantized. Charge is conserved. Charge is additive Flow of Electric charge through a metallic wire. Direction of current. Definition of the SI unit of unit of current. Drawing of the Components of Electric circuit & their symbols. Drawing Circuit Diagram.	In addition to general teaching tools like white board, marker, etc, the teacher will use Electric devices like Ammeter, Voltmeter, electric cell, battery, plug key, connecting wires etc. The References used will be : -Conceptual Physics by Paul Hewit -Science and Technology Text Book for class X.	Activating Prior Knowledge by Random Questioning Introducing the topic to be taught after getting the expected response from the students. Developing hypothesis by : Brainstorming Discussion In Text Questions	Home Assignments: The areas of assessment will be: (Regularity) (Content of Knowledge) (Presentation) (Correctness) (Thinking skills) Class Assignments: The areas of assessment will be: (Time Management) (Content of Knowledge) (Presentation) (Correctness) (Reasoning Skills) Group Activity: It includes genere It includes identifying the problem, testing/ experimenting, observation, Analysis and interpretation, conclusion & inference, making a theory. The areas of assessment may include: (Inquisitiveness) (Observation skill), (Experimental skills), (Understanding skill-viva voce),	Oral Questions:The teacher will do it to assessthe understanding of the topicby the students.The areas of assessment willinclude:(Listening Skills)(Clarity of concepts)(Communication skills)Worksheets:Worksheets specially designedto assess the students will begiven.The areas of assessment willinclude(Comprehension skills)(Knowledge Application)(Regularity)Quiz: The areas of assessmentmayl include(Thinking skills)(Reasoning Skills)(Group Participation)Group Discussion: The areasof assessment may include(Listening Skills)(Clarity of expression)(Content of Knowledge)(Attentiveness)(Teamwork)(Respect to peer)(Appropriate body language)	Concept given for FAs
					conclusion & inference, making a theory. The areas of assessment may include: (Inquisitiveness) (Observation skill), (Experimental skills), (Understanding skill-viva	(Listening Skills) (Clarity of expression) (Communication skills) (Content of Knowledge) (Attentiveness) (Teamwork) (Respect to peer)	

LESSON PLAN Session 2015-2016

Class : X

Subject : Physics

For the 3rd Week of March	Objectives (Concepts & Skills)	Learning Outcomes	Instructional Tools & References	Pedagogy	Activity / Assignment / Projects	Assessment of Learning Outcomes	FA / SA Syllabus
Theme: Electricity Periods: (3) Theory: (2) Practical (1)	 Concept of Electric Charge and its properties. Basic concept of Electric current and its units. Basic concept of the components of Electric circuit & their symbols. Skills: (Scientific Aptitude) (Content of Knowledge) (Presentation) (Correctness) (Thinking skills) (Reasoning Skills) (Attentiveness) (Listening Skills) 	Make it sure that the student learns the concepts given. Charge is quantized. Charge is conserved. Charge is additive Flow of Electric charge through a metallic wire. Direction of current. Definition of the SI unit of unit of current. Drawing of the Components of Electric circuit & their symbols. Drawing Circuit Diagram.	In addition to general teaching tools like white board, marker, etc, the teacher will use Electric devices like Ammeter, Voltmeter, electric cell, battery, plug key, connecting wires etc. The References used will be : -Conceptual Physics by Paul Hewit -Science and Technology Text Book for class X.	Activating Prior Knowledge by Random Questioning Introducing the topic to be taught after getting the expected response from the students. Developing hypothesis by : Brainstorming Discussion In Text Questions	Home Assignments: The areas of assessment will be: (Regularity) (Content of Knowledge) (Presentation) (Correctness) (Thinking skills) Class Assignments; The areas of assessment will be: (Time Management) (Content of Knowledge) (Presentation) (Correctness) (Reasoning Skills) Group Activity: It includes project work, Experiment, survey, action plan, etc. the teacher may decide the topics based on the content coverage and relevance. It includes identifying the problem, testing/ experimenting, observation, Analysis and interpretation, conclusion & inference, making a theory. The areas of assessment may include: (Inquisitiveness) (Observation skill), (Experimental skills), (Understanding skill-viva voce), (Analytical skills), (Computational skills) (Drawing conclusions)	Oral Questions:The teacher will do it to assessthe understanding of the topicby the students.The areas of assessment willinclude:(Listening Skills)(Clarity of concepts)(Communication skills)Worksheets:Worksheets specially designedto assess the students will begiven.The areas of assessment willinclude(Comprehension skills)(Knowledge Application)(Regularity)Ouiz: The areas of assessmentmayl include(Thinking skills)(Reasoning Skills)(Time Management)(Group Participation)Group Discussion: The areasof assessment may include(Listening Skills)(Content of Knowledge)(Attentiveness)(Teamwork)(Respect to peer)(Appropriate body language)	Concept given for FAs

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LESSON PLAN Session 2015-2016

For the 3rd Week of March	Objectives (Concepts & Skills)	Learning Outcomes	Instructional Tools & References	Pedagogy	Activity / Assignment / Projects	Assessment of Learning Outcomes	FA / SA Syllabus
Theme: Electricity <u>Periods</u> : (3) Theory: (2) Practical (1)	 Concept of Electric Charge and its properties. Basic concept of Electric current and its units. Basic concept of the components of Electric circuit & their symbols. Skills: (Scientific Aptitude) (Content of Knowledge) (Presentation) (Correctness) (Thinking skills) (Reasoning Skills) (Attentiveness) (Listening Skills) 	Make it sure that the student learns the concepts given. Charge is quantized. Charge is conserved. Charge is additive Flow of Electric charge through a metallic wire. Direction of current. Definition of the SI unit of unit of current. Drawing of the Components of Electric circuit & their symbols. Drawing Circuit Diagram.	In addition to general teaching tools like white board, marker, etc, the teacher will use Electric devices like Ammeter, Voltmeter, electric cell, battery, plug key, connecting wires etc. The References used will be : -Conceptual Physics by Paul Hewit -Science and Technology Text Book for class X. -	Activating Prior Knowledge by Random Questioning Introducing the topic to be taught after getting the expected response from the students. Developing hypothesis by : Brainstorming Discussion In Text Questions	Home Assignments: The areas of assessment will be: (Regularity) (Neatness) (Content of Knowledge) (Presentation) (Correctness) (Thinking skills) (Reasoning Skills) Class Assignments: The areas of assessment will be: (Time Management) (Regularity) (Neatness) (Content Knowledge) (Presentation) (Correctness) (Thinking skills) (Reasoning Skills) Group Activity: It includes project work, Experiment, survey, action plan, etc. the teacher may decide the topics based on the content coverage and relevance. It includes identifying the problem, testing/ experimenting, observation, Analysis and interpretation, conclusion & inference, making a theory. (inquisitiveness) (Observation skill), (Thinking skill) (Experimental skills), (Comprehension skills) (Understanding skill-viva voce), (Analytical skills), (Computational skills) (Drawing conclusions)	Oral Questions:The teacher will do it to assessthe understanding of the topicby the students.The areas of assessment willinclude:(Listening Skills)(Clarity of expression)(Clarity of concepts)(Comprehension skills)(Communication skills)Worksheets:Worksheets specially designedto assess the students will begiven.The areas of assessment willinclude(Comprehension skills)(Knowledge Application)(Regularity)(Attentiveness) Quiz : The areas of assessmentwill include(Thinking skills)(Reasoning Skills)(Time Management)(Group Participation) Group Discussion : The areasof assessment will include(Listening Skills)(Content of Knowledge)(Attentiveness)(Teamwork)(Respect to peer)(Appropriate body language)	Concept given for FAs

Brain Storming

In Text Questions

Concept Formation

Reflective Discussion

Concept Mapping

In text Questions

KWL Cahrt

i. Ohms law Apparatus

- *ii.* Resistors in Series Apparatus / Circuit
- *iii.* Resistors in Parallels Apparatus / Circuit