Dharmapala College - Pannipitiya

Grade 11 Syllabuses – Science- 20

FIRST TERM Grade 11 Science Syllabus (Physics)							
Unit	**Competencies**		**Competency levels**	**Time**	**Scheduled date**	**Date of Completion**	**Remarks**
1.0	**Uses mechanical and electromagnetic waves in day to day activities.**	1.1	Quantifies the properties of various types of waves.				
		1.2	Investigates on the effects created by the forms and types of waves.				
		1.3	Uses the charateristics of sound waves for tuning various musical instruments.				
02.	**Uses the phenomena related to optics effectively.**	2.1	Makes day to day activities easy by using reflection through polished plane surfaces and curved surfaces				
		2.2	Investigates on the phenomena related to refraction of light.				
		2.3	Uses the phenomena on refraction of light in human activities.				
		2.4	Uses various images produced by lenses to design optical instruments.				
03.	**Explores the effects and uses of current electricity.**	3.1	Designs domestic electric circuits according to the needs appropriately.				
		3.2	Uses the heating effects of electric current in day to day activities.				
		3.3	Uses the chemical effects of electric current .				
		3.4	Uses the magnetic effects of electric current in suitable instances.				

		3.5	Uses principles of electromagnetic induction in the generation and transmission of electricity.				
4.0.	**Involves oneself in the prevention of diseases related to main systems in the human body.**	4.1.	Acts to prevent diseases related to the human circulatory system				
		4.2	Acts to prevent diseases and ailments related to the respiratory system.				
		4.3	Acts to prevent diseases and ailments related to the digestive system.				
		4.4	Acts to prevent diseases and ailments related to the excretory system.				
		4.5	Uses electric and electronic circuits for activities related to communication.				

SECOND TERM Grade 11 Science Syllabus (Chemistry)							
Unit	**Competencies**		**Competency levels**	**Time**	**Scheduled date**	**Date of Completion**	**Remarks**
1.0	**Discovers factors affecting the behaviour of gases and behavioral patterns of gases.**	1.1	Discovers factors affecting the behaviour of gases.				
		1.2	Discovers behavioural patterns of gases.				
2.0	**Explores different solvents and their applications.**	2.1	Investigates the differences between homogeneous mixtures (solutions) and heterogeneous mixtures.				
		2.2	Investigates properties of solvents used in day-to-day life.				
		2.3	Prepares solutions according to the need.				
		2.4	Investigates factors affecting the solubility.				
		2.5	Explores the applications of solubility.				
3.0	**Investigates properties and applications of elements and simple compounds.**	3.1	Investigates properties and applications of some elements.				
		3.2	Investigates properties and applications of some compounds.				
4.0	**Investigates applications of chemistry in chemical industries and productions.**	4.1	Investigates natural resources that can be used as raw materials for chemical industries and productions.				
		4.2	Investigates the applications of chemistry in limestone based industries in Sri Lanka.				

		4.3	Investigates applications of chemistry in salt industry.				
		4.4	Investigates usage of various gasses in industries.				
		4.5	Investigates applications of chemistry in industries based on plant raw materials.				
5.0	**Acts to control the discharge of hazardous substances into the environment.**	5.1	Contributes to maintain the composition of air at an optimal level which is favourable for living organisms				
		5.2	Contributes to maintain the quality of water at an optimal level which is favourable for living organisms				
		5.3	Contributes to maintain the quality of soil at an optimal level which is favourable for living organisms.				
		5.4	Uses chemicals favourably in domestic affairs.				

THIRD TERM Grade 11 Science Syllabus (Biology)							
Unit	**Competencies**		**Competency levels**	**Time**	**Scheduled date**	**Date of Completion**	**Remarks**
01.	**Investigates on the adaptation of mechanisms which are adapted to perform body functions efficiently.**	1.1	Investigates on the nervous coordination process in human.				
		1.2	Acts accordingly to maintain the proper functioning of the sense organs.				
		1.3	Investigates on the hormonal coordination processes in human.				
		1.4	Investigates on plant growth substances and their uses.				
02.	**Investigates on the reproduction of organisms.**	2.1	Investigates on how to employ asexual reproduction methods scientifically to maintain the continuity of plants.				
		2.2	Investigates on how to employ sexual reproduction methods scientifically to maintain the continuity of plants.				
		2.3	Examines the significance of reproduction in maintaining the continuity of humans.				
		2.4	Investigates the contribution of reproduction in maintaining the continuity of organisms.				
03.	**Investigates on the mutual relationships between organisms and the environment.**	3.1	Analyses the environment biologically.				
		3.2	Contributes to maintain the balance of ecosystems.				
		3.3	Uses strategies to minimize harmful effects on the existence of biosphere.				

4.0	**Investigates the contribution of genetic material for the establishment of biodiversity.**	4.1	Investigates on the patterns of inheritance of traits in organisms				
		4.2	Investigates on the significance of genetics to humans.				
		4.3	Examines the factors and processes associated with the theory of Natural Selection.				
5.0	**Updates the knowledge on the uses of Biology.**	5.1	Investigates on the contribution of microbial biotechnology in the enhancement of the quality of life.				