

Subject: Computer Science 2019-2020

Scheme of work/Term wise syllabus breakup

Class Level: 9

Term 1

Strand	Unit	Topic	Objective	Week
	Introduction to Computer Systems (Input and Output Devices)	<ul style="list-style-type: none"> Input Devices 	<ul style="list-style-type: none"> Describe the functionalities of the following input devices along with applications: Scanners, Barcode readers, QR code readers, Digital cameras, Keyboards, Pointing devices, Microphones, Touchscreens. Interactive Whiteboards. Describe the principle of operation of a Sensor. Describe how range of sensors can be used to input data and how the range of sensors are used in real life scenarios including Light, Temperature, Magnetic Field, Gas, Pressure, Moisture, Humidity, PH, Motion, etc. 	1-6
		<ul style="list-style-type: none"> Output Devices 	<ul style="list-style-type: none"> Describe the principle of operation and applications of the following Output devices. <ul style="list-style-type: none"> ➤ Inkjet / Laser printers. ➤ 3D Printers. ➤ 2D / 3D Cutters. ➤ Actuators. ➤ Loud Speakers. ➤ LCD / LED Monitors. ➤ LCD / DLP Projectors 	
	Memory and data storage	<ul style="list-style-type: none"> File Formats Primary Memory Secondary Memory Offline Storages File size est. 	<ul style="list-style-type: none"> Describe the use and purpose of Different file formats including: MIDI, MPEG3-4, JPEG, etc. (Lossy and Lossless) Functionalities and Operation of Primary memory (RAM & ROM), Secondary Memory (HDD &SSD) and Offline Storages (CD, DVD, DVD-RAM, Blu-ray, SD Cards, and Flash memories) along with their applications in real life. How to calculate the size of a file. 	7-12

	REVISION	13 -14
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Term 2				
Strand	Unit	Topic	Objective	Week
	<ul style="list-style-type: none"> Binary systems and hexadecimal 	<ul style="list-style-type: none"> Binary systems and hexadecimal 	<ul style="list-style-type: none"> Conversion between Binary, Denary and Hexadecimal. The uses of Binary, Denary and Hexadecimal values. Measurement of the size of computer memories. 	1-5
	<ul style="list-style-type: none"> High- and low-level languages 	<ul style="list-style-type: none"> High- and low-level languages 	<ul style="list-style-type: none"> Introduction to different programming languages. The use and purpose of translators for high and low level languages. Error finding and correction (Logical & Syntax). 	6-7
	<ul style="list-style-type: none"> Problem-solving and design 	<ul style="list-style-type: none"> Problem-solving and design, Sequence, Selection (Including nested selection) Repetition(using for...next loop only 	<ul style="list-style-type: none"> Introduction to Top-Down-Design, Pseudocodes and Flowcharts. The use of validation and verification checks. How to produce algorithms. The use of sequence, selection and repetition in pseudocodes and flowcharts. 	8-14
	REVISION			15-16