



INDIAN SCHOOL MUSCAT
SENIOR SECTION
DEPARTMENT OF COMPUTER SCIENCE
CLASS XII
REVISED YEAR PLAN 2020-2021

Subject: COMPUTER SCIENCE (Code: 083)

UNIT No.	Unit	Marks
1.	Programming and Computational Thinking-2	40
2.	Computer Network	10
3.	Data Management	20
5	Practical	30
	TOTAL	100

MONTH	UNIT	No of Periods
March 2020	Unit 1: Programming and Computational Thinking-2 <ul style="list-style-type: none">• Revision of the basics of Python• Functions: scope, parameter passing, mutable/immutable properties of data objects, pass arrays to functions, return values, functions using libraries: mathematical, and string functions.	5
April 2020	Unit 1: Programming and Computational Thinking-2Contd.... <ul style="list-style-type: none">• Functions: scope, passing, mutable/immutable properties of data objects, pass arrays to functions• File handling: Need for a data file, Types of file: Text files, Binary files and CSV (Comma separated values) files.• Text File: Basic operations on a text file: Open (filename – absolute or relative path, mode), Close a text file, Reading and Manipulation of data from a text file, Appending data into a text file, standard input / output and error streams, relative and absolute paths.• Binary File: Basic operations on a binary file: Open (filename – absolute or relative path, mode), Close a binary file, Pickle Module – methods load and dump; Read, Write/Create, Search, Append and Update operations in a binary file.	18
May 2020	Unit 1: Programming and Computational Thinking-2Contd.... <ul style="list-style-type: none">• CSV File: Import csv module, functions – Open, Close a csv file, Read from a csv file and Write into a csv file using csv.reader () and csv.writerow().• Using Python libraries: create and import Python libraries	15

June 2020	<ul style="list-style-type: none"> Using Python libraries: Import Python libraries Recursion: simple algorithms with recursion: factorial, Fibonacci numbers; recursion on arrays: binary search (This portion got deleted as on 7th July 2020) Idea of efficiency: performance defined as inversely proportional to the wall clock time, count the number of operations a piece of code is performing, and measure the time taken by a program (This portion got deleted as on 7th July 2020) 	18
July 2020	<ul style="list-style-type: none"> Idea of efficiency: Measure the time taken by a Example: take two different programs for the same problem, and understand how the efficient one takes less time. (This portion got deleted as on 7th July 2020) Binary files, Functions, Text files worksheets revision. Data-structures: Lists as covered in Class XI, Stacks – Push, Pop using a list. 	20
August 2020	<p>Unit 3: Data Management (DM-2)</p> <ul style="list-style-type: none"> Database Management Database Concepts: Introduction to database concepts and its need. Relational data model: Concept of domain, relation, tuple, attribute, degree, cardinality, key, primary key, candidate key, alternate key and foreign key; Structured Query Language: General Concepts: Advantages of using SQL, Data Definition Language and Data Manipulation Language; Data Types: number / decimal, character / varchar / varchar2, date; SQL commands covered in class XI (2019-20) SELECT, DISTINCT, FROM, WHERE, IN, BETWEEN, LIKE, NULL / IS NULL, ORDER BY, GROUP BY, HAVING; SQL functions: SUM (), AVG (), COUNT (), MAX () and MIN (); 	18
September 2020	<p>Unit 3: Data Management (DM-2)</p> <ul style="list-style-type: none"> Joins: equi-join and natural join Interface of Python with an SQL database - Connecting SQL with Python - Creating Database connectivity Applications - Performing Insert, Update, Delete queries - Display data by using fetchone(),fetchall(),rowcount. <p style="text-align: center;">HALF YEARLY EXAMINATION</p> <p>Unit 2: Computer Network (CN)</p> <ul style="list-style-type: none"> Structure of a network: Types of networks: local area and wide area (web and internet), new technologies such as cloud and IoT, public vs. private cloud, wired and wireless networks; concept of a client and server. 	20

October 2020	Unit 2: Computer Network (CN) <ul style="list-style-type: none"> • Network devices such as a NIC, switch, hub, router, and access point. • Network stack: amplitude and frequency modulation, collision in wireless networks, error checking, and the notion of a MAC address, main idea of routing. IP addresses: (v4 and v6), routing table, router, DNS, and web URLs, TCP: basic idea of retransmission, and rate modulation when there is congestion (analogy to a road network), Protocols: 2G, 3G, 4G, Wi-Fi. What makes a protocol have a higher bandwidth? • Basic network tools: traceroute, ping, ipconfig, nslookup, whois, speed-test. • Application layer: HTTP (basic idea), working of email, secure communication encryption and certificates (HTTPS), network applications: remote desktop, remote login, HTTP, FTP, SCP, SSH, POP/IMAP, SMTP, VoIP, NFC. REVISION	15
November 2020	FINAL EXAMINATION	
December 2020	REVISION	
January 2021	FIRST PRE-BOARD EXAMINATION	
February 2021	SECOND PRE-BOARD EXAMINATION	
March 2021	BOARD EXAMINATION	



**INDIAN SCHOOL
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COMPUTER SCIENCE**

**Mark Distribution & Blue print
of First / Second Periodic
Assessment**

Mark	No. of Questions	Total
1 Mark	4	4
2 Mark	8	16
Total Marks		20

**INDIAN SCHOOL
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**Mark Distribution & Blue
print of Half Yearly / Final**

Mark	No. of Questions	Total
SECTION A		
1 Mark	9	9
2 Mark	8	16
3 Mark	2	6
4 Mark	1	4
TOTAL	20	35
SECTION B		
1 Mark	4	4
2 Mark	3	6
3 Mark	2	6
4 Mark	1	4
TOTAL	10	20
SECTION C		
1 Mark	3	3

**INDIAN SCHOOL
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**Mark Distribution & Blue print of
First Pre Board/ Second Pre Board**

Mark	Examination No. of Questions	Total
SECTION A		
1 Mark	8	8
2 Mark	6	12
3 Mark	2	6
4 Mark	1	4
SUB TOTAL	17	30
SECTION B		
1 Mark	4	4
2 Mark	2	4
3 Mark	1	3
4 Mark	1	4
SUB TOTAL	8	15
SECTION C		
1 Mark	4	4
2 Mark	2	4
3 Mark	1	3
4 Mark	1	4
SUB TOTAL	8	15
SECTION D		
1 Mark	2	2
2 Mark	4	8
SUB TOTAL	6	10