Dawood Public School
Computer Studies
Course Outline for 2017-2018
Class VIII

Course book- Right Byte 3
Fourth edition (Oxford University Press)

Month wise Distribution of Course Work

August	More on Number System
September	Working with Spreadsheet
October	Problem Solving
November	Data Verification & Validation/**Revision**
December	**Mid Term Examination**
January	Introduction to Programming
February	Programming in GW BASIC
March	Programming in GW BASIC Data Protection & Security
April	Applications of Computer/**Revision** Final Practical on "Programming using BASIC"
May	**Final Examination**

Content	Learning Objectives

More on Number System
Binary numbers
    • Addition
    • Multiplication
    • Division
Number System Conversions
    • Binary
    • Decimal
    • Hexadecimal
    • Octal
	Theory Objectives
	• List the Number Systems
	• Describe the working of Number Systems
	
	Practical Objectives:
	• Perform conversions from decimal to binary numbers
	• Perform conversions from binary numbers to decimals
	• Perform conversions from decimal to octal numbers
	• Perform conversions from octal numbers to decimals
	• Perform conversions from decimal to hexadecimal numbers
	• Perform conversions from hexadecimal numbers to decimals
	• Perform multiplication of Binary Numbers

Tricky Terminology: denary, hexadecimal, octal, binary **Types of Questions** ➢ Structured Questions ➢ Conversions ➢ Matching ➢ Re writing incorrect statements **I.T Links:** 1. www.rapidtables.com › Math › Numbers 2. https://www.varsitytutors.com/hotmath/hotmath_help/topics/number-systems 3. www.ma.utexas.edu/users/mks/326K04/what.html	

Content	Learning Objectives

Working with Spreadsheet
Conditional formatting
    • Decision making regarding what to do at specific situations
    • Format data in useful ways
Functions
    • Responding to random calculations quickly
Charts
    • Presentation of data in easy understandable way
	Theory Objectives:
	• Identify situations which would require presentation of data in a spreadsheet
	• Explain the requirement for conditional formatting
	
	Practical Objectives:
	• Apply conditional formatting to select required data from a spreadsheet
	• Insert IF function in a spreadsheet
	• Insert POWER function in a spreadsheet
	• Insert SQRT function in a spreadsheet
	• Insert PRODUCT functions in a spreadsheet
	• Insert the column chart using specific data
	• Insert Line chart using specific data
	• Insert pie charts using specific data
	• Apply Conditional formatting(IF-THEN) on spreadsheet using MS-EXCEL

	• Apply Line, column and pie chart on spreadsheet using MS-EXCEL as per their appropriate usability • Apply SUM, PRODUCT, SQRT, EXPONENT and relevant functions (if required)

Tricky Terminology:
function, alignments, chart

Types of Questions
➢ Structured Questions
➢ Matching
➢ Data presentation
➢ Usage and application of different charts

Practical Task:
➢ Create result sheet
➢ Create Bill Receipt (along with discount)
➢ Create Salary Slip (along with EOBI deductions, leaves, allowances etc)
➢ Create Electricity Bill

I.T Links:
1. https://www.investintech.com/resources/blog/archives/5430-excel-data-tips.html
2.https://blog.hubspot.com/marketing/how-to-use-excel-tips
3.https://www.ibm.com/support/.../c_working_with_spreadsheets_in_excel.html

October 2017
Chapter 4: Problem Solving   **Pages 46-59**

Content	Learning Objectives
Problem Solving Step by step approach to problem solving Repetition Process 'Do-While' Statement 'Repeat-Until' Statement	**Theory Objectives:** • Describe input requirements • Describe process requirements • Describe output procedure • Distinguish between the input, output and process requirements of a program • Identify different flowchart symbols and explain their use **Practical Objectives:** • Develop algorithm for given scenarios • Develop flowcharts for given scenarios

Terminologies:
precise, repetition, loop, repeat-until, do-while

Types of Questions
➢ Structured Questions
➢ Re write the incorrect statements
➢ Matching
➢ Formation of flowchart and algorithm

I.T Links:
1. asq.org/learn-about-quality/problem-solving/overview/overview.html
2. https://www.cs.vt.edu/undergraduate/courses/CS2104
3. interactivepython.org/runestone/static/pythonds/.../WhatIsComputerScience.html

Chapter 7: Data Validation and Verification   **Pages 84-93**

Content	Learning Objectives

Data Validation and Verification
Data Integrity
   • Error free data inputs
     ➢ completeness
     ➢ sensibility
     ➢ accuracy
Common types of error
   • Typing
   • Transmission
   • Programming
Data Verification
   • Double entry method
Data Validation
   • Alphabetic/numeric
   • Consistency
   • Completeness
   • Table lookup
   • Range check
	Theory Objectives:
	• Apply different validation checks
	• Recognize different validation checks applied in different scenarios
	• Identify need of data integrity
	
	Practical Objectives:
	• Apply parity checking
	• Apply check digits
	• Select appropriate validation checks which need to be applied depending on the type of data entered

Tricky Terminology:
accuracy, integrity, validation, consistency

Types of Questions
➢ Structured Question
➢ Re write the incorrect statements
➢ Matching

I.T Links:
1. https://www.mytutor.co.uk/.../What-is-the-difference-between-data-verification-and-data-validation
2. www.gigl.org.uk/data-validation-verification
3.https://www.epa.gov/sites/production/files/2016-10/.../approach_to_data.pdf

November 2017
Revision for Mid term

January 2018
Chapter 5: Introduction to programming (Page no: 60-69)

Content	Learning Objectives
What is a Program? Programming languages • High and low level languages BASIC language Command and statement Constant and variable Types of operator Importance of Syntax Types of error	• Apply programming concepts • Describe importance of different programming languages • Differentiate between commands and statements • Describe the terms variables, constants and expression.

Terminologies:
Syntax, Constant, Variable, Command, Error

Types of Questions
➢ Question Answer
➢ Re write the incorrect statements
➢ Match the column

I.T Links:
1. https://www.freebsd.org/doc/en_US.ISO8859-1/books/.../tools-programming.html
2. https://www.codecademy.com/courses/programming-intro/0/1
3 https://www.udemy.com/introduction-to-programming-level-i

February 2018
Chapter 6: Programming in GW BASIC   **Pages 70-83**

Content	Learning Objectives
Programming in GW BASIC Commands in GW BASIC Statements in GW BASIC Programs in GW BASIC Applications of command and statements in different scenarios	**Theoretical:** • Identify why programming languages are used? • Program basic scenarios using BASIC language • Apply different BASIC command • Reinforce Programming concepts based on simple random program(i.e. using sum, difference, calculations etc) along with conditional situations. • Create programs on different scenarios in BASIC **Practical:** Create random programs using "IF THEN ELSE" statement and "FOR NEXT" Loop

Tricky Terminology:

CLS, REM, RUN, LIST, LOAD, SAVE, INPUT, PRINT

Types of Questions:

- ➢ Structured Question
- ➢ Re write the incorrect statements
- ➢ Matching
- ➢ Program based Source Codes
- ➢ Command and its uses/applications
- ➢ Program development using "IF THEN ELSE" and "FOR NEXT" LOOP

I.T Links:

1 www.o-bizz.de/qbtuts/gw-train/

 2. gwbasicprograms.blogspot.com/p/gw-basic-programs.html

3. https://www.elsevier.com/books/programming-in-gw-basic/.../978-0-7506-0256-3

March 2018
Chapter 8: Data protection and security   **Pages 94-105**
Chapter 9: Applications of computer   **Page 106-119**

Content	Learning Objectives
Data protection and security Data protection Data security Common Security Issues Forms of Security threats Sources of security threats Common modes of security threats Anti Virus Software	**Theory Objectives:** • Explain the importance of keeping data secure • Identify appropriate ways used to keep data secure • Describe Virus • Describe Worms • Distinguish between Virus and Worms • Describe Phishing • Describe Pharming • Distinguish between Phishing & Pharming
Applications of computer Automation Automation in Manufacturing Databases and database systems The paperless office Telecommuting Communicating with computers New jobs in technology sector Continuous Learning	**Theory Objectives:** • List different applications of computer • Define database • Describe types of databases • Explain usage of databases • Differentiate between different types of database and where they are used • Define communication • Describe types of communications • Identify various types of communications that take place using internet

Tricky Terminology:

scam, adware ,spyware ,hacking, phishing, trojan, automation, paperless, Transaction Processing System(TPS), Management Information System (MIS), CAM, CAD

Types of Questions:
- ➢ Structured Questions
- ➢ Re write the incorrect statements
- ➢ Matching

I.T Links:

1. searchdatabackup.techtarget.com › Remote backup › Storage management

2. https://www.veracode.com/security/data-security

3. https://www.tutorialspoint.com › Computer Fundamentals › Computer - Applications

4. ttps://www.tharunpkarun.com/press/edu/applications-of-computers-in-various-fields/

5. codetpoint.com/nielit...computer/...computer/1-2-3-basic-applications-of-computer

April 2018
Revision for Final Examination

May 2018
Final Examination