Soumak chatterjee 14/08/2019

ST. LAWRENCE HIGH SCHOOL

FOR GOD AND COUNTRY

A Jesuit Christian Minority Institution

First Term Examination- 2019

Sub: Computer Science **Class: XI A1,A2,D** **F.M.: 70**

Duration: 3 Hours & 15 Minutes **Date: 6th August, 2019**

[Special credit will be given for answers which are brief and to the point. Marks will be deducted for spelling mistakes, untidiness and bad handwriting. Figures in the margin indicate full marks for the questions]

SOLUTION

GROUP A

[Multiple Choice Type Questions]

1. Choose the correct option: [1×21=21]

(i) Which generation computers used Integrated Circuits?

Answer: (c) Third

(ii) Which of the following is used as storage locations both in the ALU and in the control section of a computer:

Answer: (b) Register

(iii) What is the binary sum of 01011 and 00101?

Answer: (a) 10000

(iv) The first functional automatic calculator was invented by:

Answer: (a) Blaise Pascal

(v) How many generations required for the development of computers?

Answer: (a) 5

(vi) The process of copying data from a memory location is called:

Answer:(a) Reading

(vii) A list of instructions used by a computer is called:

Answer: (a) Program

(viii) To make a directory which command is used in MS- DOS:

Answer: (a) MD

(ix) Which computer can be held in the palm of the hand?

Answer: (a) PDA

(x) The term 'memory' applies to which one of the following:

Answer: (b) Storage

(xi) Which runs on computer hardware and serve as platform for other software to run on:

Answer: (a) Operating system

(xii) Choose the odd one out:

Answer: (d) Digital Computer

(xiii) Which of the following memory is volatile?

Answer: (a) RAM

(xiv) In magnetic disks data is organized on the platter in a computer sets or rings called:

Answer: (b) Track

(xv) The fastest type of memory is:

Answer: (b) Semiconductor memory

(xvi) Inputs to your computer is accomplished using the:

Answer: (b) Keyboard

(xvii) Which device is used for entering x-y coordinates:

Answer: (b) Joystick

(xviii) Bar codes stores information using:

Answer: (c) thick and thin lines

(xix) _____ technique is best suited for bank cheques:

Answer: (d) MICR

(xx) A individual small dot, which one sees on the computer screen is called as:

Answer: (d) Pixel

(xxi) Which of the following is an example of Non-impact printer:

Answer: (b) Laser printer

GROUP B

(2) Answer the following questions: **[1×14=14]**

(i) Mention the full form of ENIAC.

Electronic Numerical Integrator and Calculator

(ii) Convert $(10101)_2$ into its octal form.

$(10101)_2=(25)_8$

(iii) What is a 'Plotter'?

A plotter is a pen based output device that is attached to a computer for making vector graphics, that is, images created by a series of straight lines.

(iv) What is Blue Ray Disk?

Blue-Ray disk is an optical disk storage medium designed to supersede the DVD format.

(v) Draw the truth table for AND Gate.

A	B	F=A.B
0	0	0
0	1	0
1	0	0
1	1	1

(vi) Mention the full form of MICR.

Magnetic Ink Character Recognition.

(vii) What is a Multiplexer?

One Input But many output. Example: 1:4 MUX.

(viii) What is Decoder?

No input signal, Only control signals and output signals.

(ix) Convert $(376)_8$ to $(?)_{16}$

Answer: $(376)_8=(FE)_{16}$

(x) Define Micro Computer.

A micro computer is a small, low cost digital computer, which usually consists of a microprocessor, a storage unit and an input channel.

(xi) Mention the full form of EDVAC.

Electronic Discrete Variable Automatic Computer

(xii) Write the truth table for XNOR gate.

A	B	F
0	0	1
0	1	0
1	0	0
1	1	1

(xiii) What is LCD?

Liquid Crystal Display

(xiv) Define VLSI.

Very Large Sacle Integration.

GROUP C

(3) Answer the following questions: **[7×5=35]**

(i)(a) What are the different generations of computers? Explain the advantages and disadvantages of third generation of computers.

First, Second, Third, Fourth and Fifth Generation.

Advantage: Small, affordable and reliable.

Disadvantage: Manufacturing difficulty.

(b) What is the difference between analog and digital computers?

The analog computer works on analog data like speed, voltage, temperature and pressure etc.

This computer works on digital signals.

(c) Discuss Von Neumann Concept.

Page: 02

(ii) (a) What is CPU? Explain the different parts of it.

Central Processing Unit.

Different parts: 1. ALU 2. Control Unit 3. Registers.

(b) What is address bus?

The memory may be divided into linear array of bytes or words and for the purpose of reading or writing any information to the memory.

(c) Define Stored Program Concept. Page: 02

(iii)(a)Convert $(AC85)_{16}$ to $(?)_{10}$

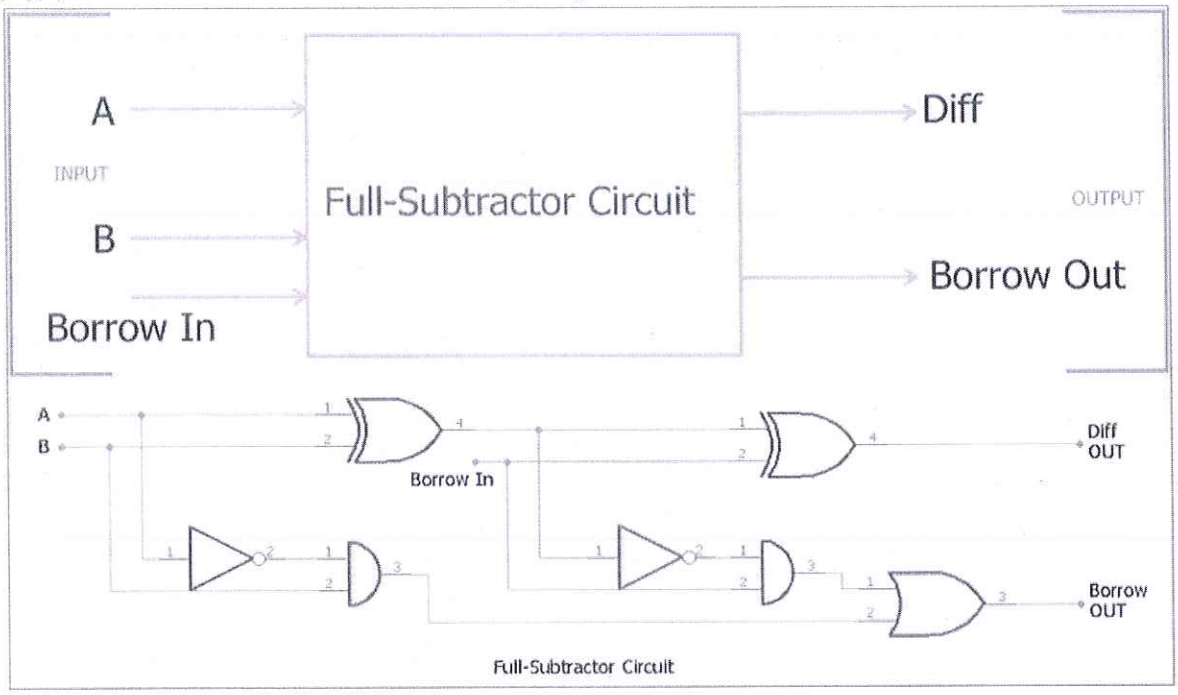
Hints: Normal conversion method.

(b) Draw XNOR gate.

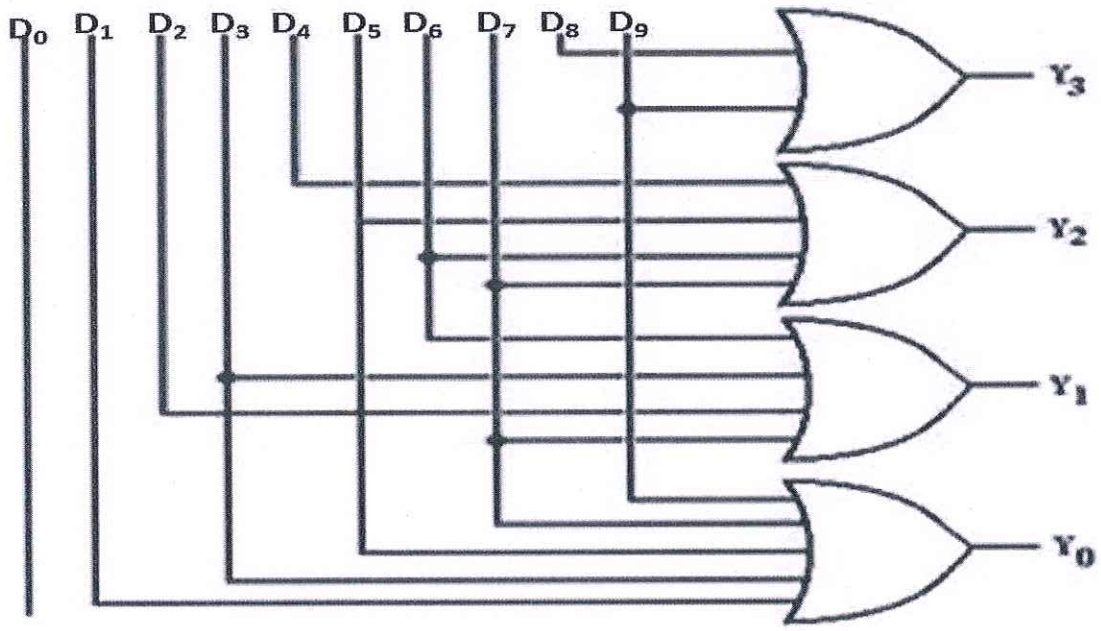
(c) Write a short note on Impact printers.

The impact printer work by physically striking a head or needle against an ink ribbon to make a mark on the paper. Example: Dot Matrix, Daisy Wheel, Drum printers.

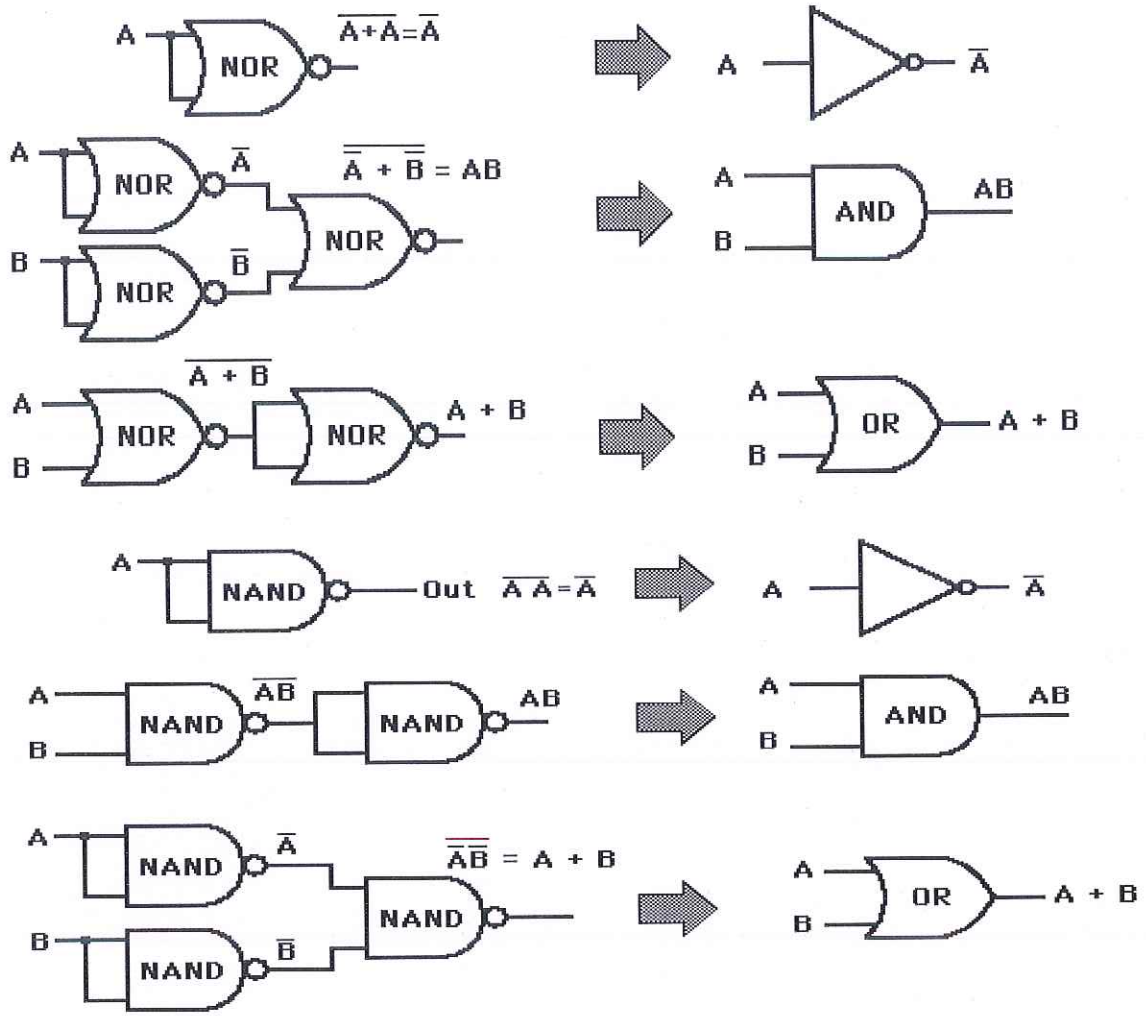
(iv)(a) Derive the truth table and draw the logic diagram of a Full Subtractor Circuit.



(b) Design a Decimal to Binary Encoder.



(v) (a) Show that NAND gate and NOR are Universal Gates.



(b) Design a Binary to Decimal Decoder.

Inputs				Outputs							
EN	A	B	C	Y_7	Y_6	Y_5	Y_4	Y_3	Y_2	Y_1	Y_0
0	×	×	×	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	1
1	0	0	1	0	0	0	0	0	0	1	0
1	0	1	0	0	0	0	0	0	1	0	0
1	0	1	1	0	0	0	0	1	0	0	0
1	1	0	0	0	0	0	1	0	0	0	0
1	1	0	1	0	0	1	0	0	0	0	0
1	1	1	0	0	1	0	0	0	0	0	0
1	1	1	1	1	0	0	0	0	0	0	0