



# ST. LAWRENCE HIGH SCHOOL

A Jesuit Christian Minority Institution



Pre Annual Examination – 2020

**CLASS – 11(B, C, D) (Model Question & Answers)**

Subject: COMPUTER APPLICATION  
Time Allotted: 3 hrs 15 min

F.M:70  
Date: 17/01/2020

## Group - A

- A. Answer the following questions (MCQ type):** [1 × 21 =21]
- The chief component used in the third generation computers was:
    - Vacuum Tubes
    - Integrated circuits
    - Transistors
    - microprocessor
  - Punched cards were used as a/an \_\_\_\_\_ device in the first generation computers.
    - Output
    - Input
    - memory
    - none of these
  - The sum of  $(9)_{16} + (6)_{16} = (?)_{16}$ 
    - D
    - 15
    - F
    - 10
  - The BCD representation of 49 is:
    - (11100011)
    - (1001001)
    - (00110010)
    - (01001001)
  - In Boolean algebra for the variable A, the value of  $A+A+A$  is equal to:
    - 1
    - 3A
    - A
    - $A^3$
  - In Boolean algebra  $XY + X'Y$  is equal to:
    - X+Y
    - X
    - 1
    - Y
  - A memory management scheme that overcomes the problem of insufficient RAM is called:
    - Virtual memory
    - Additional memory
    - real memory
    - ROM
  - Assembly language allowed programmers to use alphanumeric codes called:
    - opcode
    - mnemonic
    - operand
    - operator
  - Which function in VB converts text to numeric form?
    - Num()
    - Val()
    - Chr()
    - Txt()
  - In VB a Select...Case structure is similar to :
    - For...Next
    - If...Then...Elseif
    - Do...Loop...While
    - Do...While...Loop

11. If a set of instructions need to be repeated in a program then such a situation is called:
- repeating
  - looping**
  - processing
  - input/output
12. Which operator in VB gives the remainder in case of an integer division?
- Rem
  - Div
  - \
  - Mod**
13. Which control on a VB form allows us to select more than one item at the same time from a group?
- CheckBox**
  - OptionButton
  - Frame
  - ListBox
14. Which property is used to retrieve the text contained within a text box?
- Text**
  - Name
  - Caption
  - Visible
15. The shortcut key for paste operation is:
- Ctrl+V**
  - Ctrl+P
  - Ctrl+X
  - Ctrl+C
16. The Table option is available under which tab?
- Home
  - Format
  - Page Layout
  - Insert**
17. The subscript and superscript options are found under which group?
- Clipboard
  - Font**
  - Paragraph
  - Illustrations
18. The text-styling feature available in MS-Word is :
- WordArt**
  - ClipArt
  - SmartArt
  - ModernArt
19. For a PowerPoint presentation the default file extension is:
- ppt**
  - ppx
  - pps
  - none of these
20. What does the Outline tab display in a PowerPoint presentation?
- Text**
  - Pictures
  - Shapes
  - Notes
21. A presentation can be viewed in one of three different views-Normal, Slide Show and :
- Slide sorter**
  - Slide Layout
  - Slide Preview
  - Slide Display

**Group – B**

**B. Answer the following questions (Short Answer Type)**

[1 × 14 = 14]

1. Write the full form of VLSI.

**Ans:** Very Large scale integrated circuit

**OR**

What are supercomputers?

**Ans:** Supercomputer is a computer that performs at or near the currently highest operational rate for computers.

2. Find the 2's complement of  $(1001011)_2$ .

Ans:  $(0110101)_2$

**OR**

Find the value of  $(10010)_2 \times (10)_2$ .

Ans:  $(0100100)_2$

3. Simplify the Boolean expression:  $f = X'Y' + XY$

Ans:  $X \odot Y$

**OR**

Using postulates in Boolean algebra, prove that  $(X+Y)(X+Y') = X$ .

Ans:  $= XX + XY' + YX + YY'$

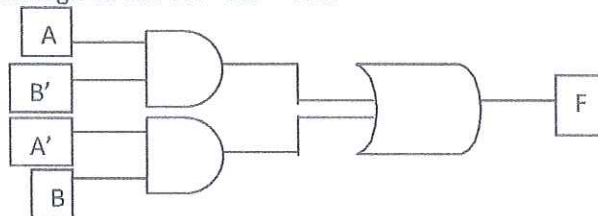
$$= X + X.(Y + Y') + 0$$

$$= X + X.1 + 0$$

$$= X$$

4. Draw the logic circuit of  $F = AB' + A'B$ .

Ans:

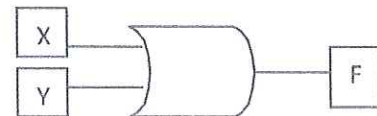


**OR**

Write down the truth table and draw logic symbol of OR gate.

Ans:

X	Y	F
0	0	0
0	1	1
1	0	1
1	1	1



5. Find the complement of  $F = (A+C').B$

Ans:  $((A + C'). B)'$  (The complement of the expression)

$$= (A + C')' + B'$$

$$= (A'.C) + B'$$

**OR**

Simplify the Boolean expression:  $AB + AB'$

Ans:  $= A(B + B')$

$$= A.1 = A$$

6. State the De Morgan's Law.

Ans: i.  $A'.B' = (A+B)'$

ii.  $(A+B)' = A'.B'$

7. What is an operating system?

Ans: Operating system is software which acts as an interface between hardware and user.

**OR**

Define spooling.

Ans: Spooling is a process in which data is temporarily held to be used and executed by a device, program or the system.

8. Write the syntax of do-while loop in VB.

Ans: Do while <condition>  
Statements to be executed  
Loop

**OR**

Write the syntax of declaring a String variable.

Ans: Dim str As String;

9. What is the function of InputBox?

Ans: Displays a prompt in a dialog box, waits for the user to input text or click a button, and returns a String containing the contents of the text box.

10. What do you mean by a variable in VB?

Ans: A variable is a named location in a memory where a program can manipulate the data. This location is used to hold the value of the variable.

**OR**

Name an event associated with Command Button Control.

Ans: Click()

11. What are relational operators in VB?

Ans: The operators in VB that tests or defines some kind of relation between two entities.

**OR**

What is the use of a Timer Control in VB?

Ans: A Timer control allows you to set a time interval to execute an event after some interval continuously.

12. What are Macros in MS-Word?

Ans: A macro is typically used to replace a repetitive series of keyboard and mouse actions.

**OR**

Under which tab, header and footer option is available in MS-Word?

Ans: Insert Tab

13. What do you mean by transition in MS-PowerPoint?

Ans: Slide transitions are motion effects that occur in Slide Show view when you move from one slide to the next during a presentation.

**OR**

Explain the term Rehearsal feature in MS-PowerPoint?

Ans: The Rehearse Timings feature in Microsoft PowerPoint provides a quick and simple way to rehearse the timing of our presentation.

14. How will you insert Flowchart Symbols in MS-PowerPoint?

Ans: Insert Tab → Shapes → Select required symbol.

### Group – C

C. Answer the following questions (Descriptive Type)

[7 × 5 = 35]

1.

a. Write any two disadvantages of first generation computers and any two advantages of third generation computers. [4]

Ans: Disadvantages of first generation computers:

- (i) Very high power consumption
- (ii) Required strong air-conditioning

Advantages of third generation computers:

- (i) power consumption was low
- (ii) high-level languages were used

b. Differentiate between SRAM and DRAM. [2]

Ans:

SRAM	DRAM
It is expensive	It is cheaper
It is faster in action	It is slower in action
It consumes more power	It consumes less power

c. What is the advantage of cache memory? [1]

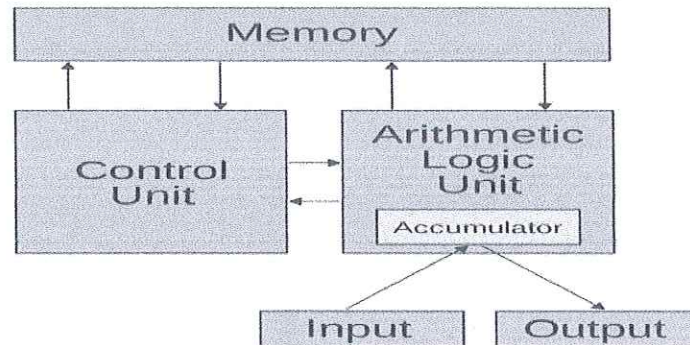
Ans: Improves CPU performance.

OR

a. State any two differences between impact and non-impact printers. [2]

Impact printers	Non-impact printers
Generally used to produce character outputs.	Generally used to produce character outputs and images.
It is slower in action	It is faster in action

b. Draw the von Neumann architecture and explain any two of its units. [4]



c. What is the difference between analogue and digital computers? [1]

Ans: Analogue – Computations are performed using continuous variations of physical properties like electrical, resistance, voltage, frequency, etc.

Digital – It uses discrete electrical voltage levels to encode a real life situation or process.

2.

a. Write a short note on flash memory. [2]

Ans: Flash memory is a non-volatile memory chip used for storage and for transferring data between a computer and digital devices. It has the ability to be electronically

reprogrammed and erased. It is often found in USB flash drives, MP3 players, digital cameras and solid-state drives.

- b. Draw the block diagram of computer and explain its ALU unit briefly. [3]

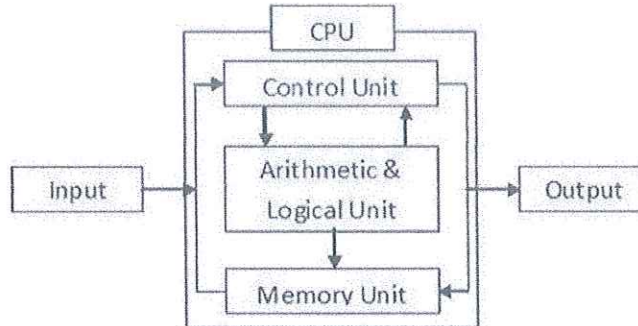


Fig. Block Diagram of Computer

**Ans:**

of arithmetic and logical operations.

ALU does all kind

- c. Write the full form of DVD and TFT. [2]

**Ans:** DVD = Digital Versatile disk

TFT = Thin Film transistors

**OR**

- a. Name the five steps involved in data processing in brief. [3]

**Ans:** Data Collection, Data Preparation, Data Input, Processing, Data output

- b. Write a short note on OMR. [2]

**Ans:** **OMR** is the process of gathering information from human beings by recognizing marks on a document. OMR is accomplished by using a hardware device (scanner) that detects a reflection or limited light transmittance on or through a piece of paper.

- c. Mention the chief technologies used in first, second, third and fourth generation of computers. [2]

**Ans:** First generation → Vacuum Tubes

Second generation → Transistors

Third generation → Integrated Circuits

Fourth generation → LSI and VLSI

3.

- a. Represent  $(-17)_{10}$  in 2's complement method. [2]

**Ans:**  $(110001)_2$

- b. Find the value of :  $(111.011)_2 + (10011.001)_2$  [3]

**Ans:**  $(11010.1)_2$

- c. Convert  $(2116)_8$  into its equivalent decimal. [2]

**Ans:**  $= 6 \times 8^0 + 1 \times 8^1 + 1 \times 8^2 + 2 \times 8^3$   
 $= 6 + 8 + 64 + 1024 = (1102)_{10}$

**OR**

- a. Find the value of:  $(111101)_2 - (101010)_2$ . [3]

Ans:  $(010011)_2$

- b. Convert  $(1101001)_2$  into its equivalent decimal. [3]

Ans:  $= 1 \times 2^0 + 0 \times 2^1 + 0 \times 2^2 + 1 \times 2^3 + 0 \times 2^4 + 1 \times 2^5 + 1 \times 2^6$   
 $= 1 + 0 + 0 + 8 + 0 + 32 + 64$   
 $= (105)_{10}$

- c. Write the full form of BCD and ASCII. [1]

Ans: BCD = Binary Coded Decimal

ASCII = American Standard Code of Information Interchange.

4.

- a. Find out the logic expression of  $F = \sum(2, 3, 4)$  [3]

Ans:  $(A'.B.C') + (A'.B.C) + (A.B'.C')$

- b. Write down the dual of a function  $F = A(B' + C)$  [2]

Ans: By the principle of duality,  $F = A' + (B'C)'$

- c. Using postulates prove that  $A' + (A + B' + C) + (A + B + C') = 1$  [2]

**OR**

- a. Find out the logic expression of  $F = \pi(1, 3, 5)$  [3]

Ans:  $(A + B + C')(A + B' + C')(A' + B + C')$

- b. Simplify the following expression:  $AB + AB' + A'C + A'C'$  [2]

Ans:  $= A(B + B') + A'(C + C')$   
 $= A + A' = 1$

- c. Using truth table, prove that:  $X + X'Y = X + Y$  [2]

Ans: Hint : Draw the truth table for RHS and LHS.

5.

- a. Differentiate between compiler and interpreter. [3]

Compiler	Interpreter
It is expensive	It is cheaper
It is faster in action	It is slower in action
It consumes more power	It consumes less power

- b. What do you mean by system software? Give one example. [2]

Ans: System software is a type of computer program that is designed to run a computer's hardware and application programs. Ex – Operating System

- c. Discuss the term booting and buffering. [2]

Ans: Booting is a startup sequence that starts the operating system of a computer when it is turned on.

Buffering is a process in which a region of physical memory storage used to temporarily store data while it is being moved from one place to another.

**OR**

- a. Explain the concept of Virtual Memory. [2]

Ans: A memory management scheme that overcomes the problem of insufficient RAM is called virtual memory.

- b. Describe any three types of operating system. [3]

Ans: Multiprogramming OS – Sharing the processor, when two or more programs reside in the memory at the same time, is referred as multiprogramming.

Batch processing OS – The OS keeps a number of jobs in memory and executes them without any manual information. Jobs are processed in the order of submission, i.e., first come first served fashion.

Time sharing OS – A time sharing system allows many users to share the computer resources simultaneously. In other words, time sharing refers to the allocation of computer resources in time slots to several programs simultaneously.

- c. Write a short note on high-level language with examples. [2]

Ans: Nowadays, instructions are given to computer to perform some tasks which are written in language similar to English. For example, C, C++, Python, etc.