



# Jaffna Hindu College

## 1<sup>st</sup> Term Evaluation Exam - 2022

Grade - 10

Information & Communication Technology

Time : 3.00 Hours;

Name / Index No. ....

### Answer all questions

- 1) Which of the following is an information?
  - (1) Marks obtained by a student
  - (2) Total number of students in a school
  - (3) Profit earned by a small business in a particular day
  - (4) Number of students passed in G.C.E(O/L) examination
- 2) Which of the following characteristic of computers decreased when vacuum tubes were replaced by transistors?
  - (1) Speed
  - (2) Size
  - (3) Capacity
  - (4) Efficiency
- 3) Who invented the analytical engine?
  - (1) Blaise Pascal
  - (2) Howard Aiken
  - (3) Charles Babbage
  - (4) Ada Augusta
- 4) The computer 'ENIAC' belongs to
  - (1) 1<sup>st</sup> Generation
  - (2) 2<sup>nd</sup> Generation
  - (3) 3<sup>rd</sup> Generation
  - (4) 4<sup>th</sup> Generation
- 5) Which of the following device uses magnetic fields and radio waves for scanning the internal organs of humans?
  - (1) ECG
  - (2) EEG
  - (3) MRI
  - (4) CT
- 6) Which of the following is not a service of e-government?
  - (1) Releasing the G.C.E(O/L) results online
  - (2) Uploading the students' text books to the official website of educational publication department
  - (3) Applying for university entrance online after the release of G.C.E(A/L) results
  - (4) Ordering a preferred item online for purchasing
- 7) In which computer generation, mouse and keyboard were introduced?
  - (1) 1<sup>st</sup> Generation
  - (2) 2<sup>nd</sup> Generation
  - (3) 3<sup>rd</sup> Generation
  - (4) 4<sup>th</sup> Generation
- 8) Consider the statements on online distance learning
  - A - Students can study according to their convenient time
  - B - It is possible to follow courses conducted by foreign educational institutions
  - C - Internet is essential for this mode of teaching and learningWhich of the above are correct?
  - (1) A, B only
  - (2) B,C only
  - (3) A,C only
  - (4) All A,B and C
- 9) Consider the following statements
  - A – Scanning the finger prints of employees and register their arrival time
  - B – Scanning barcodes and produces invoices in shops
  - C – Withdrawing money after verifying the PIN in ATMWhich of the above are examples for system?
  - (1) A, B only
  - (2) B, C only
  - (3) A, C only
  - (4) All A, B and C
- 10) Which of the following is not a purpose of introducing ICT in each field?
  - (1) Efficiency increases
  - (2) Accuracy increases
  - (3) Cost increases
  - (4) Speed increases
- 11) Which of the following is an output device?
  - (1) USB drive
  - (2) Flatbed scanner
  - (3) Plotter
  - (4) Memory registers
- 12) Which of the following has less storage capacity?
  - (1) RAM
  - (2) Compact Disk
  - (3) Floppy disk
  - (4) Magnetic tapes

- 13) Which of the following ports used for connecting the monitor to computer?  
 (1) USB, HDMI (2) PS/2, Parallel (3) VGA, HDMI (4) Serial, USB
- 14) Which of the following is a volatile memory?  
 (1) ROM (2) USB drive (3) Hard disk (4) Memory registers
- 15) Which of the following scanner is used to scan the numbers such as account number printed on a cheque?  
 (1) Optical mark recognition (2) Barcode reader  
 (3) Optical character reader (4) Magnetic ink character reader
- 16) Which of the following device provides softcopy output?  
 (1) Printer (2) Speaker (3) Monitor (4) Plotter
- 17) Which of the following component is not located inside of CPU?  
 (1) RAM (2) Registers (3) CU (4) ALU
- 18) Which part of the hard disk performs read, write actions?  
 (1) Platter (2) Spindle (3) head (4) Actuator
- 19) Which of the following is a magnetic storage device?  
 (1) Blu Ray Disk (2) SD card (3) Floppy disk (4) Flash drive
- 20) The slowest and smallest computers in the world  
 (1) Mainframe computers (2) Mini computers (3) Micro computers (4) Super computers
- 21) What port in the computer is used to connect the network router with the computer using network cable?  
 (1) Serial (2) Ethernet (3) PS/2 (4) USB
- 22) Which of the following is an unguided medium used in data transmission?  
 (1) Co-axial (2) Microwave (3) Fiber optics (4) Twisted pair
- 23) The networking device used to connect two different computer networks together  
 (1) Network switch (2) Hub (3) Router (4) Firewall
- 24) Which of the following memory stores the data which are frequently used in the computer?  
 (1) RAM (2) ROM (3) Cache (4) Memory register
- 25) The component which monitors incoming and outgoing network traffic in a computer  
 (1) Router (2) Network switch (3) Firewall (4) Network hub
- 26) Which of the following is equivalent to  $198_{10}$ ?  
 (1)  $11000010_2$  (2)  $11010011_2$  (3)  $11000110_2$  (4)  $11000011_2$
- 27) The decimal equivalent of binary number  $11010110_2$  is  
 (1)  $211_{10}$  (2)  $214_{10}$  (3)  $215_{10}$  (4)  $204_{10}$
- 28) Which of the following represents the given four numbers in ascending order?  
 (1)  $73_8, 48_{10}, 45_{16}, 101100_2$  (2)  $101100_2, 48_{10}, 73_8, 45_{16}$   
 (3)  $48_{10}, 45_{16}, 101100_2, 73_8$  (4)  $101100_2, 73_8, 48_{10}, 45_{16}$
- 29) How many symbols are used in hexa-decimal number system?  
 (1) 10 (2) 9 (3) 15 (4) 16
- 30) Consider the following statements on hexa-decimal numbers:  
 A) Both numbers and letters can be in a hexa-decimal number  
 B) It is used in computers  
 C) It is easy for a computer to translate the hexa-decimal values into its binary format  
 Which of the above are correct?  
 (1) A,B only (2) B,C only (3) A,C only (4) All A,B and C

- 31) Which of the following is an impact printer?  
 (1) Thermal printer                      (2) Dot matrix printer      (3) Inkjet printer                      (4) Laser printer
- 32) Ravi visited the official website of examination department at the URL <http://www.doenets.lk> to view G.C.E(O/L) results. What type of services did he receive from examination department's website ?  
 (1) G2B                                      (2) G2G                                      (3) G2C                                      (4) G2E
- 33) Which of the following is the correct order of computers based on size in descending order?  
 (1) Super computer, micro computer, mini computer, mainframe computer  
 (2) Mini computer, micro computer, super computer, mainframe computer  
 (3) Super computer, mainframe computer, mini computer, micro computer  
 (4) Super computer, mini computer, mainframe computer, micro computer
- 34) Which of the following is a valid unit used to measure the CPU speed?  
 (1) GB                                      (2) GHz                                      (3) GB                                      (4) Byte
- 35) Which of the following medium uses point to point data transmission?  
 (1) Bluetooth                              (2) Infrared                                      (3) Wi-Fi                                      (4) Radio wave
- 36) Which of the following has the highest value of the information regarding the winners of a lottery draw to the general public?  
 (1) When they read the names of the winners printed in the newspaper  
 (2) When they watch a live TV show where winners are announced  
 (3) When they watch the interview of winners during the presentation ceremony  
 (4) When the general public buy the lottery tickets
- 37) Which of the following converts digital data to analog data for transmitting over an analog telephone network?  
 (1) Router                                      (2) Modem                                      (3) NIC                                      (4) Firewall
- 38) In which computer generation, machine language was used for writing computer programs?  
 (1) 1<sup>st</sup> Generation                      (2) 2<sup>nd</sup> Generation                      (3) 3<sup>rd</sup> Generation                      (4) 4<sup>th</sup> Generation
- 39) Consider the following statements on client / server network model:  
 A) Star topology can be built in client / server model  
 B) Client can control each other  
 C) Each computer in this model can communicate with other  
 Which of the above are correct?  
 (1) A only                                      (2) B,C only                                      (3) A,C only                                      (4) All A,B and C
- 40) Which of the following device was invented by Charles Babbage?  
 (1) Mechanical loom                      (2) Abacus                                      (3) Punch card                                      (4) Difference engine

## Part II

- Answer **all** five questions.
- First question carries **20** marks and each of the other questions carries **10** marks.

- 1) i) Write a device which can function as both input and output devices.
- ii) Write two examples for micro computers.
- iii) Write two advantages of robotics used in industries.
- iv) What is the main hardware component / technology used in 2<sup>nd</sup> generation computers?
- v) What is the binary equivalent of  $145_{10}$ ?
- vi) Write the name of the cable used in TV antenna and CCTV.
- vii) What is the unit used to measure the speed of the modern computers?
- viii) Write the name of the network topology illustrated in figure 1.

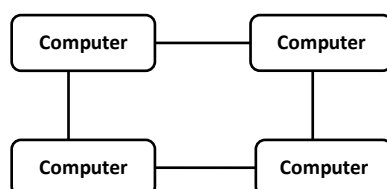


Figure 1

- ix) Column A and column B have matching pairs. Write down the suitable words from column B against the letters labelled in column A

Column A	
a)	Infrared
b)	Unshielded Twisted Pair
c)	Simplex mode
d)	Full duplex mode



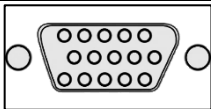
Column B
Network switch
Radio broadcast
LAN
Remote controller

- x) Write two services provided by the government to other governments by using ICT.
- 2) i) Write *two* characteristics of data.
  - ii) Write *two* advantages of Learning Management System (LMS) to students.
  - iii) Write any *two* applications of Artificial Intelligence in fifth generation computers.
  - iv) What are the components / elements of a system?
  - v) Write *four* characteristics of 4<sup>th</sup> generation computers.
- 3) i) Write one advantage and one disadvantage of star topology.
  - ii) What is the difference between half duplex and full duplex data transmission?
  - iii) Write two functions of servers in client server network.
  - iv) A bank connects all the branches together in a city. These branches have number of internal networks for their routine activities. State the type of computer networks which connects all the branches of a bank together.
  - v) Your class teacher requested you to select a suitable network topology for the school computer lab. He further stated that not to select mesh topology as it has some drawbacks. Write two drawbacks of mesh topology.

- 4) i) Convert the following numbers to decimal number system. (Clearly show your computations)  
 a)  $1100101_2$                       b)  $1001001_2$
- ii) Convert the following numbers to binary number system. (Clearly show your computations)  
 a)  $341_{10}$                               b)  $111_{10}$
- iii) Convert the following numbers to octal number system. (Clearly show your computations)  
 a)  $231_{10}$                               b)  $123_{10}$
- iv) Convert the following numbers to decimal number system. (Clearly show your computations)  
 a)  $3F9_{16}$                               b)  $EB4_{16}$
- v) The followings are the colours written in hexadecimal number system. Find the equivalent value of them in decimal number system. Write the values for the labels A – F. Write the correct values against the labels in your answer script.

Colour	Hexadecimal value	Decimal value		
		RED	GREEN	BLUE
Light green	90EE90 (R-90, G-EE, 90-B)	(A)	(B)	(C)
Light blue	ADD8E6 (R-AD, G-D8, E6-B)	(D)	(E)	(F)

- 5) i) Write the function of an ALU.  
 ii) Write two examples for solid state storage devices.  
 iii) Internet is the biggest network which interconnects number of networks together. It is based on mesh topology. Write one advantage of establishing it in mesh format.  
 iv) Write 3 differences between impact and non-impact printers.  
 v) Identify the following ports. Write the name of the port against the label in your answer sheet.

<b>A</b>	
<b>B</b>	
<b>C</b>	
<b>D</b>	