FIRST YEAR HIGHER SECONDARY MODEL EXAM 2023

COMPUTER APPLICATION (COMMERCE)

Maximum : 60 Scores

Answer any 5 questions from 1 to 6. 1 score each.

1	The temperory storage location inside CPU is called	
Ans	**Register**	1
2	Name the software that translates assembly language program into machine language.	
Ans	**Assembler**	1
3	In a flowchart ..... is used as theinput/output symbol	
Ans	Parallelogram	1
4	The data type in C++ used to indicate an empty set of data is	
Ans	**void**	1
5	What is the name of files created to support C++ programs and kept in the standard library.	
Ans	**Header file**	1
6	Pick out the odd one out.	
Ans	**Wikis**	1

Answer any 9 questions from 7 to 18. 2 scores each.

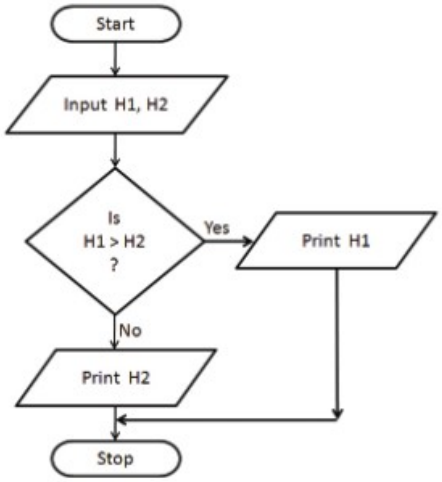
7	How is a computer superior to human in data processing.	
	High Speed and Accuracy	2
8	Convert (ACD)16 to octal number system	
Ans	(5315)8	2
9	a) Define cache memory. b) What is the advantage og using cache memory?	
Ans	**High Speed memory placed between processor and RAM. It helps to improve the speed and performance of the computer system.**	2
10	Write any four characteristics of an algorithm.	

Ans	1.Algorithm should begin with instruction(s) to accept inputs. 2. Variables must be used for inputting data and assigning values or results. 3. All instructios should be precise and unambiguous. 4. Each instruction must be sufficiently basic. 5. The total time to carry out all the steps in the algorithm must be finite. 6. After performing the instructions given in the algorithm, the desired results (outputs) must be obtained.	2
11	Write any two situations in which syntax errors can occur in a program	
Ans	**1. Missing semi colon (;) at the end of statements** **2. Using an undeclared variable** **(any two relevant points)**	2
12	Differentiate between break and “break” in C++	
Ans	**break : Keyword** **“break” : string literal**	2
13	Compare relational operators and logical operators	
Ans	**Relational operators are used to compare two values** **eg: >, <, <= , >= , ==, !=** **Logical operators are used to combine relational operations** **eg: && : AND, || : OR, ! : NOT**	2
14	Define L Value and R Value	
Ans	**L Value : left value, memory location address of variable, R Value : Right Value, content of the variable.**	2
15	Complete the missing parts in the following program that inputs two numbers and find their sum.	
Ans	#include<iostream> using **namespace** std; int **main**() { int a,b, Sum; **cin**>>a>>b; Sum = **a + b**; cout<<”Sum of two numbers”<<Sum; **}**	2
16	Compare if...else ladder and switch statements	

<table>
<tr><td>Ans</td><td>
<table>
<tr><th>switch statement</th><th>else if ladder</th></tr>
<tr><td>• Permits multiple branching.</td><td>• Permits multiple branching.</td></tr>
<tr><td>• Evaluates conditions with equality operator only.</td><td>• Evaluate any relational or logical expression.</td></tr>
<tr><td>• Case constant must be an integer or a character type value.</td><td>• Condition may include range of values and floating point constants.</td></tr>
<tr><td>• When no match is found, <code>default</code> statement is executed.</td><td>• When no expression evaluates to True, <code>else</code> block is executed.</td></tr>
<tr><td>• <code>break</code> statement is required for exit from the <code>switch</code> statement.</td><td>• Program control automatically goes out after the completion of a block.</td></tr>
<tr><td>• More efficient when the same variable or expression is compared against a set of values for equality.</td><td>• More flexible and versatile compared to <code>switch</code>.</td></tr>
</table>
</td><td>2</td></tr>
<tr><td>17</td><td>“ While forming a computer network, switch is said to be an intelligent device when compared to hub”. Explain.</td><td></td></tr>
<tr><td>Ans</td><td>Determins the destination and redirect the data only to the intended node generating less network traffic.
Stores the addresses of all the devices connected to it in a table.</td><td>2</td></tr>
<tr><td>18</td><td>Write short note on EPS in e-Bussiness</td><td></td></tr>
<tr><td>Ans</td><td>A system of financial exchange between buyers and sellers in an online environment is called an Electronic Payment System (EPS).</td><td>2</td></tr>
<tr><td colspan="3">Answer any 9 questions from 19 to 29. 3 scores each.</td></tr>
<tr><td>19</td><td>I the sign and magnitude representation of a number is 10001101, a) identify the sign bit, b) Identify the number, c) Find 1’s Complement</td><td></td></tr>
<tr><td>Ans</td><td>10001101 : sign bit 1 (-ve number)

10001101 :the number is 1101 (-13)

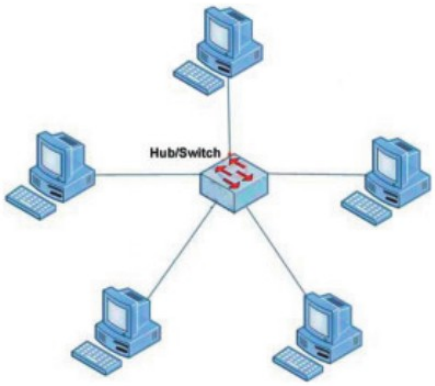
1’ Complement
00001101 : binary number in 8 bits form
11110010 : 1’s complment</td><td>3</td></tr>
<tr><td>20</td><td>Explain any three methods of e-waste disposal.</td><td></td></tr>
</table>

Ans	**Reuse: It refers to second-hand use or usage after the equipment has been upgraded or modified.** **Incineration: It is the process of burning e Waste at high temperature in in the range of 900 to 1000 degree Celsius.** **Recycling of e-Waste: It is the process of making new products from this e-Waste.** **Land filling: It is one of the most widely used where soil is excavated from the trenches made and waste material is buried in it, which is covered by a thick layer of soil.**	3
21	Draw a flow chart to input two numbers and find the biggest.	
Ans		3
22	a)Define identifiers, b) Write any four rules to name an identifier.	
Ans	a)user-defined words that are used to name different program elements such as memory locations, statements, functions, objects, classes etc. b) The first character must be a letter or underscore (_). White space and special characters are not allowed. Keywords cannot be used as identifiers. Upper and lower case letters are treated differently, i.e. C++ is case sensitive.	3
23	a) What are statements in C++? b) Explain any two types of statements with an example each.	

Ans	**Statements are the smallest executable unit of a programming language.** **It ends with a semi colon(;).** **1.Declaration statements: All the user defined words must be declared before it is used in the program.** Example: int rollnumber; **2. Assignment Statement** Used to assign a value to a variable. Assignment operator (=) is used. Examples : A = 15; c = a + b;	3
24	Find the value of x in the following statements if x = 5 . a) x*= 2; b) x/=2; c) x%=2;	
Ans	**a) 10** **b) 2 (assumed x is an integer)** **c) 1**	

25	Re write the following C++ code using for loop
	int n = 1;
	while (n <= 5)
	{
	cout<< n << '\t' ;
	n += 1;
	}	

Ans	int n;
	for(n = 1; n <= 5; n+=1)
	{
	cout<< n << '\t' ;
	}
		3

26	a) Define topology. b) Name and draw the topology that uses switch to connect all the nodes.	
Ans	a) The way in which the nodes are physically interconnected to form a network is called a Topology. b) **Star topology**  	3
27	a) What is we browsing? b) Give 2 examples for web browsers.	

Ans	a) Traversing through the web pages of World Wide Web is called web browsing. b) Mozilla Firefox , Google Chrome	3
28	a) Name any 4 classification of social media. b) Write any two advantages of social media	
Ans	a) Internet Forums, social blogs, microblogs, wikis, Social networks, content communities b) **Bring people together** **Plan and organise events** **Business promotion** **Social skills**	3
29	e- Learning plays an important role in education system. List any three advantages of e- Learning	
Ans	•e-Learning has the ability to offer courses on variety of subjects to large number of students from distant location. •cost for learning is much less. • It provides facility to do online courses. • Time and place is not a constraint for e-Learning.	3
Answer any 2 questions from 30 to 32. 5 scores each.		
30	a) What is meant by free and open source software ? b) Explain various freedoms offered by software foundations. c) Classify the following into proprietary software and free and open source softwares. (Windows, Mozilla Firefox, Gimp, MS Word)	
Ans	a) Free and open source software gives the user the freedom to use, copy, distribute, examine, change and improve the software. b) Freedom 0 - The freedom to run program for any purpose. Freedom 1 - The freedom to study how the program works and adapt it to your needs. Freedom 2 - The freedom to distribute copies of the software. Freedom 3 - The freedom to improve the program and release your improvements to the public, so that the whole community benefits. c) Proprietery Software : Windows, MS Word Free and open source : Mozilla Firefox, GIMP	5

31	a) Write the name of the loop thatwill execute the loop body atleast once even though the condition is false. Write the syntax of this loop.
	b) Write the output of the following C++ code.
	
	Int n = 1;
	while(n <=10)
	{
	cout<<n<< '\t';
	n +=2;
	}	

Ans	a) do …. while loop. initialisation; do { statements; update statement; }while(test expression); b) 1 3 5 7 9	5
32	a)Define computer network. b) Explain any two types of networks based on geographical area. c) Write the name of address assigned to NIC of each computer in network. Explain.	
Ans	a) Computer Network is a group of computers and other computing hardware devices connected to each other electronically through communication medium. b) **Local Area Network (LAN) :** LAN is a network of computing and communicating devices in a room, building, or campus. It can cover an area of radius with a few meters to a few Kilometers.LAN can be set up using wired media(UTP cables, coaxial cables, etc.) orwireless media (infrared, radio waves,etc.). **Metropolitan Area Network(MAN):**MAN is a network of computing and communicating devices within a city. It can cover an area of a few Kilometers to a few hundred Kilometers radius. MAN is usually formed by interconnecting a number of LANs and individual computers. c) **Media Access Control (MAC)** address is a universally unique address (12 digit Hexa decimal number) assigned to each NIC (Network Interface Card) by its manufacturer. MAC address of an NIC is permanent and never changes. MAC addresses are 12-digit hexadecimal (or 48 bit Binary) numbers. **MM : MM : MM : SS : SS : SS or MM – MM – MM – SS – SS – SS** The first half (MM:MM:MM) of a MAC address contains the ID number of the adapter manufacturer. The second half (SS:SS:SS) of a MAC address represents the serial number assigned to the adapter.	5