INDIAN SCHOOL MUSCAT

FINAL TERM EXAMINATION

SET B

FEBRUARY 2019

CLASS XI

Marking Scheme – COMPUTER SCIENCE (Code:283)[THEORY]

Q.NO.	Answers	Marks (with split up)
I.a.	Throughput= The number of jobs completed Total time taken to complete the jobs - 1 mark for definition	1
b.	**RAM-** Random Access Memory is a volatile memory. It cannot keep or save the contents once the power is off. - ½ Mark **ROM-** Read Only Memory contains pre-written programs which are stored in permanently even after the power is off. Programs like BIOS are stored in ROM. – ½ Mark	1
c.	Proprietary software is the software that is neither open nor freely available. Its use is regulated and further distribution and modification requires permission by vendor. Source code not available. - ½ Mark Example: Microsoft Windows - ½ Mark	1
d.	Any two points about UNICODE - ½ Mark each	1
e.	i) Providing user interface ii) Handling I/O operations(any 2) - ½ Mark each	1
f.	i)Parallel processing ii)Superconductors - ½ Mark each	1
g.	Any two points – 1 Mark each	2
h.	i) $(7642)_8= (111110100010)_2$ ii) $(2A3)_{16} = (675)_{10}$ 1 Mark each	2
II.a.	Comments provide internal documentation of a program. Indentation makes the statement clear and readable. - ½ Mark each	1
b.	Syntax errors- Syntax refers to formal rules governing the construction of valid statements in a language. - ½ Mark Example: Missing of a semiciolon at the end of a statement. Semantics errors- refers to the set of rules which give the meaning of a statement.e.g. X * Y = Z – cannot come on the left side of an assignment statement. - ½ Mark	1

c.	Effective and efficient, User friendly, Self documenting code, Reliable, Portable, Robust (Any 4 characteristics) - ½ Mark each	2
d.	i)Any two uses of documentation - ½ Mark each ii)Adaptive maintenance To accommodate changing needs , time to time , maintenance is done and is called adaptive maintenance. For example new government may need to process new reports or market conditions – 1 Mark	2
e.	Crack the problem, Code the algorithm, Compile the program and Execute the program. – (Any 3) - 1 Mark each	3
f.	i) Pretty printing- When a program formatting is done to make a program more readable - 1 Mark ii) Robustness - The ability of a program, to recover following an error and to continue operating within its environment , is called robustness. - 1 Mark iii) Guard code- The code which can handle exceptional data errors and operational errors is called Guard code. - 1 Mark	3
III.a.	i) Weight>=135 && Weight<165 - ½ Mark ii) Y%2 !=0 ½ Mark	1
b.	i) (sqrt((2*x)/+(3*y))/ (4*m))– pow(w,6) - ½ Mark ii) cos(x)/ atan(x)) + x - ½ Mark	1
c.	Type casting operators allow you to convert a data item of a given type to another data type according to the requirement. It is explicit conversion by the programmer. – ½ mark Example – any one - ½ Mark	1
d.	fundamental data types- that are not composed of any other type. – ½ Mark ex. char, int(any one) – ½ Mark derived data types- composed of fundamental data types. – ½ Mark ex. Array (any one) – ½ Mark	2

e.	A pointer is a variable that holds the address of another variable in memory where a value is stored. 1 Mark
	Example: int x = 10;
	int * ptr ; // here otr is a pointer variable
	ptr =&x;// The address of x is stored in ptr 1 Mark
		2

f.	Data type modifiers -A modifier is used before the data type to alter the meaning of the base type to fit various situations more precisely. e.g. short, long. - 1 Mark Reference variable - A reference is an alternative name for an object. It provides an alias for a previously defined variable. - 1 Mark	2

g.	for header file ½ Mark declaration & input & output statements - 1 Mark for conditional operator statement. - 1 ½ Mark	2
h.	i) The multiple use of input or output operators(“>>” or “<<“) in one statement is called cascading of I/O operators. - ½ Mark cin>>a>>b; cout<<“Sum= ”<<s; (any example) - ½ Mark ii) Escape sequence – Non graphic characters that cannot be typed directly from keyboard eg. tabs, carriage return etc. these can be represented by using escape sequence. - ½ Mark Eg – ‘\t’ Horizontal tab - ½ Mark iii) Dynamic initialization is the process of giving an initial value to a variable during run time. Eg- int x; cin>> x ; int z = x+10 ;	3
IV.a.	i) iostream.h -½ Mark. ii) math.h -½ Mark.	1
b.	i) number of elements in the array – 100 -½ Mark. ii) total number of bytes required – 400 bytes -½ Mark.	1
c.	Header file, declarations & output statement with endl at correct place - 1 Mark Correct nested loop - 1 Mark	2

d.	Output-
	a=2 b= 4 ½ Mark each
	x=2 y= 2 ½ Mark each
		2

e.	#include<iostream.h>
	void main() // no parenthesis - ½ Mark
	{ int x[6]={2,5,3,-5,2_}; // no element - ½ Mark
	for(i=0;i<6;i++) //semicolon required - ½ Mark
	cout<<x[i]; //<< operator - ½ Mark
	}
		2

f.	int x=1, s=0; - ½ Mark
	while(x<=100) - ½ Mark
	{s+=x;
	x+=2; - ½ Mark
	} - ½ Mark
	cout<<s;
		2

g.	Header file, declarations, input statement , output statement- 1 Mark Correct logic - 2 Marks	3
h.	Header file, declarations, input statement , output statement- 1 Mark Correct logic - 2 Marks	3
i.	Header file, declarations, input statement - 1 Mark Correct logic for displaying the border elements - 2 Marks	3

j.	Header file, declarations, input statement - 1 Mark Correct logic - 2 Marks	3
k.	Header file, declarations - ½Mark Correct logic - 3 Marks for displaying - ½ Mark	4
l.	Header file, declarations - ½Mark Correct logic to use structure to input 10 employee details and find total salary- 3 Marks for displaying - ½ Mark	4
m.	Function header and Return statement – 1 Mark Correct Logic – 3 Marks	4