

INDIAN SCHOOL MUSCAT
FINAL TERM EXAMINATION
FEBRUARY 2019

SET A

CLASS XI

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

Q.NO.	Answers	Marks (with split up)
I. a.	IC's were used. Size of the computer became smaller. Performance speed improved. Consumed less power. <div style="text-align: right;">½ Mark each</div>	1
b.	Utilities are those application program that assist the computer by performing housekeeping functions like backing up disk or scanning /cleaning viruses or arranging information etc. <div style="text-align: right;">1 Mark</div>	1
c.	CISC-Complex Instruction Set Computer refers to computers designed with a full set of computer instructions that were intended to provide needed capabilities in the most efficient way. - <div style="text-align: right;">½ Mark</div> RISC- Reduced instruction set computer – is a microprocessor that is designed to perform a smaller number of types of computer instructions so that it can operate at a higher speed MIPS. <div style="text-align: right;">½ Mark</div>	1
d.	Convert $(65.3)_8$ to $(53.375)_{10}$ <div style="text-align: right;">1 Mark</div>	1
e.	Represent -30 in 2's complement form. Ans: 00010 <div style="text-align: right;">1 Mark</div>	1
f.	Round Robin (RR) scheduling is aimed at giving all programs equal opportunity to make progress. This is implemented by ensuring that no program gets a second opportunity to execute unless all other programs have had at least one opportunity. <div style="text-align: right;">1 Mark</div>	1
g.	It is a memory between the RAM and the CPU. Cache memory is needed to the optimal performance of a computer system. <div style="text-align: right;">2 Marks</div>	2
h.	Operating System is a set of programs(software's) which acts as an interface between the user and the hardware. <div style="text-align: right;">1 Mark</div> Services are: Program Execution ,Handling Input/output operation, Manipulations of file system, Error detection and handling ,Resource Allocation, Accounting Information and Resource Protection.(Any two) 1 Mark	2
II.a.	When a program formatting is done to make a program more readable, it is called Pretty Printing <div style="text-align: right;">1 Mark</div>	1

b.	Facilitates communication between technical development personnel and non- technical users, useful for development, operations and maintenance, Essential during abnormal or urgent maintenance, Useful in initiating and training. (Any two) 1 Mark	1
c.	Syntax error occurs when we violate the rules of a programming language when we write programs in an editor and submit it for compilation. Example: Missing a semicolon in a statement in C++ - int x Semantic error occurs when we create statements in C++ which are not meaningful. Example: x + y = Z ;	2 1 Mark 1 Mark
d.	Portable, Reliable, Efficient, Easily understandable, User friendly, Extensible, Robustness etc. Explanation of any 4 characteristics – ½ Mark each	2
e.	Crack the problem ,code the algorithm , compile the program, execute the program Explanation of any three - 1 Mark each	3
f.	Guard code- Is the code which can handle exceptional data errors and operational errors. Robustness- The ability of a program to recover following an error and continue operating within its environment. Runtime error occurs during the execution of a program due to wrong data types entered as input, problem in data file opening or due to mathematical errors in formulas(Eg: Division by zero in a formula like x/y, when y is 0, error will occur).	3 1 Mark each
III.a.	Identifiers are names given to variables, constants, functions etc to identify them in a program. Example: int sum ; void fact() ; ½ Mark for definition + ½ Mark for example	1
b.	i) (Sal >=10000) && (Sal<60000) ii) (Y % 2==0)	1 ½ Mark each
c.	#include<iostream.h> #include<string.h>	½ Mark each 1
d.	i) abs(exp(3*x+2) - 15 *x) ; iii) sqrt(pow(sin(x),2) –pow(cos(x),2)) ii) S = u + a * t ; iv) w- 3*pow(y,7) + 5 * y ;	2 ½ Mark each
e.	i) Number of elements: 120 ii) 480 Bytes	1 Mark 1 Mark 2
f.	#inculde<iostream.h> int main() { int sal = 20000 , i ;	½ Mark each 2

	<pre>cout<< "Sum ="<< sal + 30 ; return(0) ; }</pre>	
g.	<p>Array is a collection of finite number of elements of the same data type with a common name. Array elements can be accessed by cin or gets() operator.</p> <p>Structure is a collection of data members of same or different data types under a common name. The keyword for a structure is struct. To access a structure data member we have to use dot(.) operator with the variable name.</p> <p style="text-align: right;">1 Mark each</p>	2
h.	<p>Proper Header files - ½ Mark</p> <p>Correct input- ½ Mark</p> <p>Logic- 1 ½ Marks</p> <p>Correct output- ½ Mark</p>	3
IV.a.	<p>When there is a mismatch in the number of if and else statements in a nested if, then the else statement appearing immediately after the inner 'if' will be considered as a part of inner 'if' only even though logically it has to appear as a part of outer 'if'. This will give logical error during execution.</p> <p style="text-align: right;">1 Mark</p>	1
b.	<p>Local variables are defined inside a function or a block and its scope is inside the function or block where it is defined.</p> <p>Global variables are defined outside all the functions and its scope is the entire program.</p> <p style="text-align: right;">½ Mark each</p>	1
c.	<p>typedef command is used to declare a data type with an alternate name so that it becomes more meaningful in accordance with the context of the program.</p> <p style="text-align: right;">1 Mark</p> <p>Example: typedef float amount ;</p> <pre>void main() { amount sum; }</pre> <p>Above program shows sum as a variable as amount which is actually float.</p> <p style="text-align: right;">1 Mark</p>	2
d.	<p>Actual parameter is the variables/constants declared in the function call statement.</p> <p>Formal parameters are the variables/constants declared in the function definition /prototyping. -</p> <p style="text-align: right;">1 Mark</p> <p>Example: void sum(int y); // y is formal parameter</p> <pre>void main() { int x=2; sum(x); // x is actual parameter }</pre> <p style="text-align: right;">1 Mark</p>	2

e.	1 Mark each for each line correct output 12&3& 12\$3\$14\$	2
f.	switch(ch) { case 'A': a++; break; case 'C': c++; break; case 'E': e++; break; case 'R': r++; break; default : unknown++; }	2
g.	Proper Header files - ½ Mark Correct structure definition- 1 Mark Logic- 1 Mark Correct output- ½ Mark	3
h.	Proper Header files - ½ Mark Correct input- ½ Mark Logic- 1 ½ Marks Correct output- ½ Mark	3
i.	Proper Header files - ½ Mark Correct input- ½ Mark Logic- 1 ½ Marks Correct output- ½ Mark	3
j.	Proper Header files - ½ Mark Correct input- ½ Mark Logic- 1 ½ Marks Correct output- ½ Mark	3
k.	Proper Header files - ½ Mark Correct Input- ½ Mark Logic- 2 ½ Marks Correct output- ½ Mark	4
l.	Proper Header files - ½ Mark Correct Input- ½ Mark Logic- 2 ½ Marks Correct output- ½ Mark	4
m.	Proper Header files - ½ Mark Correct Input- ½ Mark Logic- 2 ½ Marks Correct output- ½ Mark	4