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| Cairo University | **Cairo University – Faculty of Graduate Studies for Statistical Research** | | | |
| | **Department:** Computer sciences | | | |
| | **Academic Year:** 1 | **Semester:** two | | |
| | **Date:** 4-6-2023 | **Level:** Diploma | | |
| **Course Title:** Computer Programming (1) | **Course code:** CS503 | **Time:** 3 Hours | **Exam marks:** 75 | **Exam Sheets:** 4 |

**Question One: Choose the correct output of each of the following:**

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| **1)** #include <iostream><br>using namespace std;<br>**int main() {**<br>int i = 5;<br>if (i < 55 % 5)<br>cout << "C++";<br>cout<<" Lang."; **return 0; }** | **a)** C++ | **b)** C++ Lang. | **c)** Lang. |
| **2)** #include <iostream><br>using namespace std;<br>double fun( double x, double y) **{**<br>if (x >= y) return x;<br>return y; **}**<br>**int main(){** cout<< fun(5, 10); **return 0;}** | **a)** 10 | **b)** 5 | **c)** None of the above. |
| **3)** #include <iostream><br>using namespace std;<br>**int main(){**<br>for (int i = 1; ; i++) cout << i;<br>cout << endl; **return 0; }** | **a)**<br>infinite loop | **b)** the output is nothing | **c)** None of the above. |
| **4)** #include <iostream><br>using namespace std;<br>**int main() {** int a = 5;<br>cout << a++ ; int b = a ;<br>cout << endl; cout << b ; **return 0;}** | **a)**<br>5<br>5 | **b)**<br>6<br>6 | **c)**<br>5<br>6 |
| **5)** #include <iostream><br>using namespace std;<br>**int main() {**<br>int score = 78;<br>if (score = 50)<br>cout << "ok ";<br>cout << "*****"; **return 0;}** | **a)** ok ***** | **b)** ***** | **c)** ok |
| **6)** #include <iostream><br>using namespace std;<br>int main() **{**<br>double g = 1.9;<br>if (g>= 2.0)<br>**{** if (g >= 3.7) cout <<"The list"; **}**<br>else cout<<" No "; **return 0;}** | **a)** No | **b)** The list | **c)** None of the above. |
| **7)** #include <iostream><br>using namespace std;<br>void fun1 (int& a){ a *= 5; cout << a ; }<br>**int main() {** int b = 1;<br>fun1 (b); cout << b ; **return 0; }** | **a)** 55 | **b)** 15 | **c)** 51 |

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| **8)** #include <iostream><br>using namespace std;<br>void rep();<br>void rep(char);<br>void rep(char, int);<br>**int main() {**<br>rep();<br>rep('/', 5); **return 0; }**<br>void rep (char ch, int n)<br>{for (int j=0; j<n; j++) cout << ch; }<br>void rep (char ch)<br>{for (int j=0; j<5; j++) cout << ch; }<br>void rep()<br>{for(int j=0; j<5; j++) cout << '*'; } | **a)** *****///// | **b)** *****<br>///// | **c)** /////***** |
| **9)** double x[10][20]; | **a)** declares the two dimensional array x of 10 rows and 20 columns, in which every element is of type double | **b)** declares the two dimensional array x of 10 columns and 20 rows, in which every element is of type double | **c)** None of the above. |
| **10)** #include <iostream><br>using namespace std;<br>**int main() {** int i = 11;<br>do { cout << i; i = i + 5; }<br>while (i <= 10);<br>cout<<i; **return 0; }** | **a)**<br>1011 | **b)**<br>1116 | **c)** None of the above. |
| **11)** #include <iostream><br>using namespace std;<br>**int main() {** int x = 1;<br>int *p = &x;<br>*p = 24;<br>x = x + 10; cout << x ; **return 0;}** | **a)** 34 | **b)** 11 | **c)** None of the above. |
| **12)** Based on the previous point, choose the best answer.<br>cout << p ; **return 0;}** | **a)** Address of p | **b)** Address of x | **c)** None of the above. |
| **13)** Based on point **11**, choose the best result to this code:<br>p++; | **a)** Increases the value of p by one | **b)** Increases the value of p by 4 bytes | **c)** None of the above. |
| **14)** #include <iostream><br>using namespace std;<br>void func1 () **{**<br>static int x=1;<br>x = x * 6;<br>cout << x ; **}**<br>**int main(){** func1 (); func1 (); **return 0;}** | **a)**<br>636 | **b)**<br>66 | **c)** None of the above. |
| **15)** #include <iostream><br>using namespace std;<br>**int main() {**<br>for (int i = 5; i <= 4; i++) cout << i ;<br>cout << "**"; **return 0;}** | **a)** ** | **b)** 54321 | **c)** 54321** |

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| **16)** #include <iostream><br>using namespace std;<br>**int main () {** int i;<br>for (i = 0; i < 3; i++);<br>cout << "*" ; **return 0; }** | **a) *** | **b) *** | | **c)** None of the above. |
| **17)** #include <iostream><br>using namespace std;<br>**int main() {**<br>int arr[10]={10}; cout<<arr [1]; **return 0;}** | **a)** 10 | **b)** 0 | | **c)** None of the above. |
| **18)** #include <iostream><br>using namespace std;<br>int fun (int m, int n) **{**<br>if (n == 0) return m;<br>else return fun (n, m % n); **}**<br>**int main**(){ cout<< fun (4,8); **return 0; }** | **a)** 4 | **b)** 8 | | **c)** None of the above. |
| **19)** #include <iostream><br>using namespace std;<br>int fun (int m, int n) **{**<br>if (n== 0) return 0;<br>else if (n ==1) return m;<br>else return (m + fun (m, n-1)); **}**<br>**int main**(){ cout<<fun (12, 2); **return 0;}** | **a)** 2 | **b)** 12 | **c)** 24 | **d)** none of the above. |

**Question 2:Choose what must be corrected for each of the following: اختر ما يجب تصحيحه في كل نقطة فرعية**

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| **20)** #include <iostream><br>int main() **{**<br>std..cout <<100 * 0.25 ; endl; return 0; **}** | **a)** <<100 * 0.25 ; endl; | **b)** std..cout | | **c)** All of the above. |
| **21)** #include <iostream><br>#include <cmath> using namespace std;<br>**int main()** { cout<<sqrt(9.0); **return 0;}** | **a)**<br>cout<<sqrt(9.0); | **b)**<br>#include <cmath> using namespace std; | | **c)**None of the above. |
| **22)** structType s1, s2;<br>structType students[100];<br>s1== s2; | **a)** s1== s2; | **b)** structType students[100]; | | **c)** None of the above. |
| **23)** int n[10]={1, 3, 5, , 9};<br>int i;<br>for (i = 9; i > 0; i--) cout<< n[i] ; | **a)**<br>int n[10]={1, 3, 5, , 9}; | **b)** i > 0; | | **c)** All of the above. |
| **24)** int fun (const int x[], int xSize)**{**<br>for (int i = 0; i < xSize; i++)<br>cout << x[i] ; **}** | **a)** int fun | **b)** const int x[] | | **c)** All of the above. |
| **25)** class die {<br>int n=0;<br>public:<br>int getN() const;<br>void die();<br>int roll(); } | **a)** void die(); | **b)** int n=0; | **c)** None of the above. | **d)** All of the above. |
| **26)** Based on the previous point, choose the what must be corrected. | **a)** int getN() const; | **b)** int roll(); } | **c)** None of the above. | **d)**All of the above. |

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| **27)** void print(studentType s)<br>{cout<<name; cout<<score;} | **a)**<br>void print(studentType s) | **b)**<br>{cout<<name; cout<<score;} | **c)** None of the above |
| **28)** struct empType {<br>double expyears;<br>int sal; } empType emp; | **a)**<br>int sal; } empType emp; | **b)**<br>struct empType { | **c)**None of the above |
| **29)** int *intList, int size;<br>cout<<"Enter the size "; cin >> size;<br>intList = new [size]; | **a)**<br>intList = new [size]; | **b)**<br>int *intList, int size; | **c)** All of the above. |
| **30)** void i(empType& e)<br>{ e::sal = 0; e::expyears = 3.5; } | **a)**<br>{e::sal = 0; e::expyears =3.5;} | **b)**<br>void i(empType& e) | **c)**None of the above |

**Question 3: Choose the correct while code to the this code:**

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| **31)** for (int i = 0; i < 5; i++)<br>cout << i;<br>cout << endl; | **a)** int i = 0;<br>while (i < 5){<br>cout << i ;<br>i++; cout << endl; } | **b)** int i = 0;<br>while (i < 5){<br>cout << i ;<br>i++;} cout << endl; | **c)** None of the above. |

**Question 4: Choose the following program using switch:**

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| **32)**<br># include <iostream><br>using namespace std;<br>**int main() {**<br>int day; char dn;<br>cout<<"Enter a number between 1-7";<br>cin >> day;<br>if (day==1) dn = 'S';<br>else if (day==2) dn = 'S';<br>else if (day==3) dn = 'M';<br>else if (day==4) dn = 'T';<br>else if (day==5) dn = 'W';<br>else if (day==6) dn = 'T';<br>else if (day==7) dn = 'F';<br>else dn = 'U';<br>cout << dn ; **return 0; }** | **a)** # include <iostream><br>using namespace std;<br>int main( ){ int day; char dn;<br>cout <<<br>"Enter a number between 1-7";<br>cin >> day;<br>switch(day) {<br>case 1: dn = 'S'; break;<br>case 2: dn = 'S'; break;<br>case 3: dn = 'M'; break;<br>case 4: dn = 'T'; break;<br>case 5: dn = 'W'; break;<br>case 6: dn = 'T'; break;<br>case 7: dn = 'F'; break;<br>default: dn = 'U';}<br>cout << dn ; return 0; **}** | **b)** # include <iostream><br>using namespace std;<br>int main( ){ int day; char dn;<br>cout <<<br>"Enter a number between 1-7";<br>cin >> day;<br>switch(day) {<br>case 1: dn = 'S';<br>case 2: dn = 'S';<br>case 3: dn = 'M';<br>case 4: dn = 'T';<br>case 5: dn = 'W';<br>case 6: dn = 'T';<br>case 7: dn = 'F';<br>default: dn = 'U';}<br>cout << dn ; return 0; **}** | **c)** None of the above. |

**Question 5: Choose the correct code for each point: اختار الكود الصحيح لكل سؤال**

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| **33)** To initialize board during the declaration to ones: | **a)** int board[4][3] = {{1,1, 1,1}, {1,1, 1,1}, {1, 1,1,1}}; | **b)** int board[4][3] = {{1, 1, 1}, {1, 1, 1}, {1, 1,1}, {1,1,1}}; | **c)** None of the above |
| **34)** Initialize the pointer ptr so that it points to nothing. | **a)** ptr = NOTHING; | **b)** ptr = 0; | **c)** None of the above |
| **35)** To add the specification file in the implementation file: | **a)**<br>#include <clockType.h> | **b)**<br>#include <clockType> | **c)** None of the above |
| **36)** To de-allocate the dynamic array p: | **a)** delete []p ; | **b)** delete p ; | **c)** None of the above |
| **37)**To declare x to be a pointer to a pointer: | **a)** int *x ; | **b)** int **x ; | **c)** None of the above |
| **38)** Make the pointers p1 and p2 point to the same memory location. | **a)** p1 == p2 | **b)** p1= p2 | **c)** None of the above |