**Department of Computer Science and Engineering**

Mawlana Bhashani Science and Technology University

**1st Year 1st Semester B.Sc. (Engg.) Final Examination-20\_\_**

Course Code: CSE 4201 Course Title: Computer Basics & Programming Fundamentals

Full Marks: 50 Time: 1 Hours

**Answer any Five from the following questions. Each question should be answered consecutively.**

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| 1. | a) | Define computer and list the four parts of a computer system. | 4 |
|  | b) | Identify two unique features of supercomputers. | 4 |
|  | c) | List three hardware factors that affect processing speed. | 2 |
|  |  |  |  |
| 2. | a) | Describe the uses for speech-recognition systems. | 4 |
|  | b) | List four characteristics you should consider when comparing monitors. | 3 |
|  | c) | Define average access time and explain how it is measured. | 3 |
|  |  |  |  |
| 3. | a) | List two reasons why computers use the binary number system and convert 20578 into decimal. | 4 |
|  | b) | Define the terms database and database management system (DBMS). | 3 |
|  | c) | Classify network by their component role. | 3 |
|  |  |  |  |
| 4. | a) | Name two ways in which computer viruses can be spread. | 2 |
|  | b) | Define software piracy and explain why it is illegal. | 3 |
|  | c) | Define flowchart and draw a flowchart for binary search. | 5 |
|  |  |  |  |
| 5. | a) | Replace *‘for’* loop of the following code by *‘do..while’* loop.  *#include <stdio.h>*  *#include <stdlib.h>*  *//count characters..*  *int main()*  *{*  *long nc;*  *nc=0;*  *for(nc=0;getchar() != EOF; ++nc)*  *;*  *printf("%ld\n",nc);*  *return 0;*  *}* | 5 |
|  | b) | Complete the following code function to count the number of ‘1’ in binary form of a number.  int bitCount(unsigned x)  {  int b;  for(b=0; x!= 0; x>>=1)  {  ……………………………………..  ……………………………………..  }  return b;  } | 5 |
|  |  |  |  |
| 6. | a) | Calculate the output of the following program  #include <stdio.h>  #include <stdlib.h>  int main()  {  int i=0, x=0, y=0, z[]= {1,2,3,4,5,6,7,8,9};  printf("x=%d \t y=%d\n\n", ++x,y++);  printf("x=%d \t y=%d\n\n\n", x,y);  z[x++]=++x;  z[++y]=++y;  for(i=0; i<9; i++)  {  printf("z[%d] = %d\n", i, z[i]);  }  return 0;  } | 5 |
|  | b) | Evaluate and write down the output of the following program  #include <stdio.h>  #include <stdlib.h>  int main()  {  int i=0, n=55;  for(i=0;i<n;i++)  {  printf("%6d%c", i,(i%10==9 || i==n-1) ? '\n': ' ');  }  printf("Hello world!\n");  return 0;  } | 5 |
|  |  |  |  |
| 7. | a) | Write down the difference between   1. while & do-while 2. break & continue |  |
|  | b) | Replace the following if else segment using conditional operator  if(n>0)  {  if (a>b)  z=a;  }  else z=b; |  |
|  |  |  |  |
| 8. | a) | Differentiate between statement and expressions. | 2 |
|  | b) | Write a program which will take two matrix as input and perform multiplication between them. | 8 |
| Md. Mosaddik Hasan  Associate Professor  Department of Computer Science and Engineering  Mawlana Bhashani Science and Technology University | | | |
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