



**Daffodil International University**  
**Department of Computing and Information System**  
**Faculty of Science & Information Technology**  
**Final Examination, Spring 2024**  
**Course Code: CIS 115**  
**Course Title: Structured Programming**  
**Course Teacher Initial: MFH**

**Time: 02:00 Hours**

**Marks: 40**

*(Answer all the following questions)*

*[The figures in the right margin indicate the full marks and corresponding course outcomes.  
 All portions of each question must be answered sequentially.]*

1. a) What is computer programming? Distinguish between structured programming and object oriented programming. [3] CO1
- b) Write name of C tokens with examples. [2] CO1
- c) Briefly explain the basic structure of C programs with an example. [4] CO1
- d) What is recursion? [1] CO1
2. a) Find the output for the following segment of program. [6] CO2

|   |   |
|---|---|
| <pre>(i) int main() {     int n;     for (n = 7; n != 0; n--) {         printf("n=%d", n);     }     getchar();     return 0; }</pre> | <pre>(ii) int A[] = {5, 7, 4, 12, 3, 7, 9, 8}; for(int i=0; i&lt;6; i++) {     printf("%d ", a[i]+1); }</pre> |
|---|---|

- b) Write a program that will read the value of marks and convert the following expression into if-else statement: [4] CO2

$$\text{Grade} = \begin{cases} \text{"A+"} & \text{for marks} \geq 80 \\ \text{"A"} & \text{for marks} \geq 75 \\ \text{"A-"} & \text{for marks} \geq 70 \\ \text{"Fail"} & \text{otherwise} \end{cases}$$

3. Implement any two questions using C language. [10] CO2
- a) Write a C program to input week number (1-7) and print day of week name using switch case.

- b) Write a C program to enter temperature in Fahrenheit and convert into Celsius.
- c) Write a Program to find out the GCD of any two numbers using while loop.

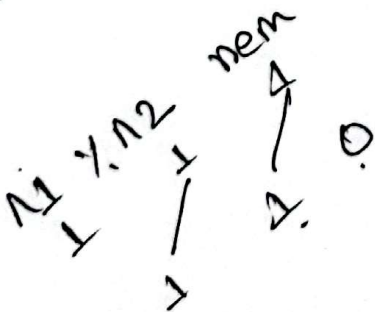
4. a) Write the equivalent code of the following statement in While loop [3] CO3  
format.

```
#include <stdio.h>
int main()
{
    int k;
    for (k=1; k<=80; k++)
        printf ("%d\n", k * k);
    return 0;
}
```

- b) Write a C program to find the summation of following series: [4] CO3  
 $3+6+9+ \dots + n$
- c) Write a program that read any uppercase character and display in lower case. [3] CO3

for (i=3; i<=n; i+=3)  
 sum = sum + i;

UP - (212-65) A  
 Lower - (96-97) a  
 C = C + 32



$$\frac{C}{5} = \frac{F-32}{9}$$

$$\frac{5(F-32)}{F-32} = 9C$$

$$\therefore F = \dots$$

$$C = 5 * (F - 32) / 9$$



# Daffodil International University

Department of Computing and Information System (CIS)  
 Final Examination: Spring Semester-2024  
 Program: B.Sc. in CIS

Course Code: COF101  
 Course Title: Computer Fundamentals

**Total Time: 2 hours**

**Total Marks: 40**

*(Answer all the following questions)*

*[The figures in the right margin indicate full marks for the respective questions]*

| 1.        |   |  |       |       |
|-----------|---|--|-------|-------|
| Questions |   |  | Marks |       |
| (a)       | Justify the reasons why the performance of I series microprocessor is better than Pentium series microprocessor?  |  | [4]   | CLO-4 |
| (b)       | Is it true that RAM and Cache memory is responsible for performance of the computer, if yes then justify with relevant example? Which device of the computer is solely responsible for overall performance of the computer? |  | [6]   | CLO-4 |

| 2.        |   |  |       |       |
|-----------|---|--|-------|-------|
| Questions |   |  | Marks |       |
| (a)       | Explain with diagram the architecture of the Arithmetic and Logic Unit (ALU).   |  | [5]   | CLO-1 |
| (b)       | The central processing unit (CPU) is the primary component of any digital computer system. Briefly explain with block diagram how microprocessor works. |  | [5]   | CLO-1 |

| 3.  | Questions  | Marks |       |
|-----|--|-------|-------|
| (a) | What are the key functions of the Windows operating system? Describe the process management or CPU scheduling mechanisms utilized by Windows OS. | [6]   | CLO-2 |
| (b) | Define the term deadlock and explain the conditions necessary for a deadlock to occur.   | [4]   | CLO-2 |

| 4.  | Questions   | Marks |       |
|-----|---|-------|-------|
| (a) | Define the term Encryption and Decryption with necessary example.                                 | [3]   | CLO-3 |
| (b) | Briefly explain with relevant example of Ransomware and any other social engineering type attack. | [4]   | CLO-3 |
| (c) | Convert the following decimal number-410 to binary and hexadecimal number-8F to binary.           | [3]   | CLO-3 |



**Faculty of Science & Information Technology**  
**Department of Computing and Information System (CIS)**  
**Final Exam, Spring-2024**  
**Batch 19: Section A**  
**Course Code: CIS 133**  
**Course Title: Website Development Essential**

**Time: 2 Hours**

**Total Marks: 40**

(The figure of the right margin indicates the marks)

(You need to answer all of the following question)

|    |   |        |      |
|----|---|--------|------|
| 1. | <p>a) Construct the following form by using HTML and CSS.</p> <p><b>Registration form</b></p> <div style="border: 1px solid black; padding: 5px;"> <p>User personal information</p> <p>Enter your full name<br/><input type="text"/></p> <p>Enter your email<br/><input type="text"/></p> <p>Enter your password<br/><input type="password"/></p> <p>confirm your password<br/><input type="password"/></p> <p>Enter your gender</p> <p><input type="radio"/> Male</p> <p><input type="radio"/> Female</p> <p><input type="radio"/> others</p> <p>Enter your Address:<br/><input type="text"/></p> <p><input type="button" value="sign-up"/></p> </div> <p>b) Build the following output using HTML text formatting markup.</p> <p>The <i>formula</i> of water is H<sub>2</sub>O, and the formula of alcohol is C<sub>2</sub>H<sub>5</sub>OH</p> <p>E = mc<sup>2</sup>, where E — kinetic energy, m — mass, c — the speed of light.</p> <p>She likes <del>violets</del> <u>snowdrops</u>.</p> <p>WWF's goal is to: "Build a future where people live in harmony with nature."</p> | 5      | CLO3 |
| 2. | <p>a) Demonstrate the different types of ways to link CSS files into HTML with necessary code example.</p> <p>b) Design the following output using the CSS position property.</p> <p><b>The position Property</b></p> <div style="background-color: black; color: white; padding: 2px; display: inline-block;">             This heading is moved left according to its normal position         </div> <p style="text-align: center;">This heading is moved right according to its normal position</p>  | 4<br>3 | CLO2 |

Marin Hasan. UVA, codeforce.

|                     | <p>a) Explain the meaning of the following CSS properties and give examples of the possible values they might have.</p> <ul style="list-style-type: none"> <li>i. Margin</li> <li>ii. Padding</li> <li>iii. Float</li> </ul>  | 3                   |         |  |  |          |            |             |       |          |         |   |  |     |       |          |      |            |  |  |       |  |      |
|---------------------|---|---------------------|---------|--|--|----------|------------|-------------|-------|----------|---------|---|--|-----|-------|----------|------|------------|--|--|-------|--|------|
| 3.                  | <p>a) What is the generalized CSS syntax explained with an example.<br/>b) Briefly explain WWW and web server.</p>  | 2<br>2              | CLO1    |  |  |          |            |             |       |          |         |   |  |     |       |          |      |            |  |  |       |  |      |
| 4.                  | <p>a) Construct the following table by using HTML and internal CSS</p> <table border="1" style="margin-left: 40px;"> <thead> <tr> <th colspan="4">Purchased Equipment</th> </tr> <tr> <th rowspan="2">Item No.</th> <th rowspan="2">Item Image</th> <th>Description</th> <th>Price</th> </tr> <tr> <th>Shipping</th> <th>Expense</th> </tr> </thead> <tbody> <tr> <td rowspan="2">1</td> <td rowspan="2"></td> <td>IBM</td> <td>\$400</td> </tr> <tr> <td>Shipping</td> <td>\$40</td> </tr> <tr> <td colspan="3">Total cost</td> <td>\$440</td> </tr> </tbody> </table> <p>b) Design the following output using internal CSS.</p> <h2 style="text-align: center;">Love solving problems?</h2> <div style="border: 2px solid red; border-radius: 15px; background-color: cyan; padding: 5px; margin: 10px auto; width: 80%; text-align: center;"> <p>CSS property allow to add rounded corners to a division elements.<br/>CSS also provide some flexible design features.</p> </div> <div style="border: 2px solid red; border-radius: 15px; background-color: cyan; padding: 5px; margin: 10px auto; width: 80%; text-align: center;"> <p>Web development is the work involved in developing a website for the Internet. There are three kinds of Web developer specialization: front-end developer, back-end developer, and full-stack developer.</p> </div> <p style="text-align: center; font-size: small;">[NB: Border color: red, background color: cyan, Border width: 2px]</p> <p>c) Show the below output to use HTML markup</p> <p>Ordered list</p> <ul style="list-style-type: none"> <li>i. RAM</li> <li>ii. ROM</li> <li>iii. CPU</li> <li>iv. Mouse</li> </ul> <p>Unordered list</p> <ul style="list-style-type: none"> <li>o RAM</li> <li>o ROM</li> <li>o CPU</li> <li>o Mouse</li> </ul> | Purchased Equipment |         |  |  | Item No. | Item Image | Description | Price | Shipping | Expense | 1 |  | IBM | \$400 | Shipping | \$40 | Total cost |  |  | \$440 | 6<br><br><br><br><br><br><br><br><br><br><br><br><br><br><br><br>5 | CLO4 |
| Purchased Equipment |   |                     |         |  |  |          |            |             |       |          |         |   |  |     |       |          |      |            |  |  |       |  |      |
| Item No.            | Item Image  | Description         | Price   |  |  |          |            |             |       |          |         |   |  |     |       |          |      |            |  |  |       |  |      |
|                     |   | Shipping            | Expense |  |  |          |            |             |       |          |         |   |  |     |       |          |      |            |  |  |       |  |      |
| 1                   |   | IBM                 | \$400   |  |  |          |            |             |       |          |         |   |  |     |       |          |      |            |  |  |       |  |      |
|                     |   | Shipping            | \$40    |  |  |          |            |             |       |          |         |   |  |     |       |          |      |            |  |  |       |  |      |
| Total cost          |   |                     | \$440   |  |  |          |            |             |       |          |         |   |  |     |       |          |      |            |  |  |       |  |      |

13 15

```

scanf("%d", &n);          5 7 11
while (n != 0)
{
    scanf("%d %d", &x, &y);
    //
}
    
```

11 2  
11 2 4 3  
11 13 = 2411 2



**Daffodil International University**  
 Faculty of Science and Information Technology  
 Department of Computing & Information System (CIS)  
 Program: B.Sc. in Computing & Information System  
 Final Examination, Semester: Spring-2024

Course Code: MAT 101  
 Time: 2.0 Hours

Course Title: Mathematics I

Credit Hours: 3.0  
 Total Marks: 40

Name & Designation of the Examiner: Md. Shakib Hossain (MSH), Lecturer

|    |  |            |
|----|--|------------|
| 1. | <p>Explain the concept of Critical point, saddle point, maximum and minimum values of a function.</p> <p>[CLO-3, PLO-1, C/L-2]</p>   | 4          |
| 2. | <p>Analyze the maxima and minima of the following function</p> $f(x) = x^5 - 5x^4 + 5x^3 - 10$ <p>[CLO-3, PLO-4, C/L-4]</p> <p style="text-align: right;">-37<br/>max min.</p>   | 6          |
| 3. | <p>Evaluate the following:</p> <p>i. <math>\int \sin^4 x \, dx</math>                      ii. <math>\int \frac{\cos x}{\cos x + \sin x} \, dx</math></p> <p>iii. <math>\int_1^2 \ln x \, dx</math>                          iv. <math>\int_0^{\pi/2} \frac{\sin x + \cos x}{\sqrt{1 + \sin 2x}} \, dx</math></p> <p>[CLO-4, PLO-3, C/L-5]</p> | 4 × 5 = 20 |
| 4. | <p>i. Analyze the nature of the following equation</p> $2x^2 - 3xy + y^2 - 5x + 4y + 6 = 0$ <p>ii. Examine the line represented by the given equation and angle between them</p> $3x^2 - 16xy + 5y^2 = 0$ <p>[CLO-5, PLO-4, C/L-4]</p>   | 4+6=10     |

*Handwritten notes:*  
 C/L-4  
 $\frac{2}{4} + \frac{1}{2} = \frac{4}{4} + \frac{2}{4} = \frac{6}{4} = \frac{3}{2}$   
 $\frac{2}{4} + \frac{1}{2} = \frac{2}{4} + \frac{2}{4} = \frac{4}{4} = 1$   
 $\frac{2}{4} + \frac{1}{2} = \frac{2}{4} + \frac{2}{4} = \frac{4}{4} = 1$



# Daffodil International University

Faculty of Science & Information Technology  
Department of Computing and Information System

Final Examination, Spring-2024

Course Code: ENG101, Course Title: English I

Level: 1 Term: 1

Exam Duration: 2:00 Hours

Marks: 40

## Answer ALL Questions

[The figures in the right margin indicate the full marks and corresponding course outcomes. All portions of each question must be answered sequentially.]

|    |    |   |           |                    |
|----|----|---|-----------|--------------------|
| 1. | a) | Listening: Listen to the audio and apply it to answer questions 1 to 10 (Selecting and analyzing ideas; has already been taken separately)  | [Marks 8] | CLO 2              |
|    | b) | Speaking: Cue Card Topics (Relating and demonstrating ideas; has already been taken separately)   | [Marks 7] | Level 2,3          |
| 2. | a) | Modify the verbs as directed.<br>i. He _____ (not miss) the train if he _____ (not oversleep). [Third Conditional]<br>ii. If you _____ (put) water in the freezer, it _____ (become) ice. [Zero Conditional]<br>iii. If I _____ (be) prime minister, I _____ (invest) more money in quality education. [Second Conditional]<br>iv. They _____ (come) to the party if they _____ (get) an invitation. [First Conditional]<br>v. If I _____ (know) the answer, I _____ (raise) my hand. [Third Conditional]   | [Marks 5] |                    |
|    | b) | Identify the correct answer by following the instructions for each question:<br>i. Identify the sentence which contains no errors.<br>A. For example, police officers who regularly deal with all manner of life-threatening situations.<br>B. If you have any problems with either our merchandise and our sales staff, we ask you to report the matter to the management.<br>C. The coach was critical of the team's performance during the last game and encouraged everyone to do better in the next.<br>D. Because the coach encouraged everyone on the team to practice harder and play better. | [Marks 5] | CLO 1<br>Level 1,3 |



ii. Identify the complex sentence.

- A. There is a little dirt on this plate and an ugly stain on the table cloth.
- B. Though there are laws to punish the terrorists, they are not properly applied.
- C. We can get many new information by using it.
- D. He came to a house and asked for something to eat.

iii. Identify the sentence which contains no errors.

- A. The teachers got all the children safely out of the school, because the fire alarm sounded.
- B. Because it was getting late and everyone was tired after hiking for so many hours on such a hot day.
- C. Formal academic writing adheres to stricter rules than informal writing, but it doesn't contain slang expressions.
- D. Not only will you get free shipping, but if you order in the next thirty minutes, we will include a second set of kitchen knives at no extra cost.

iv. Identify the simple sentence.

- line
- A. The modern technology is surely a blessing but it has many dark sides.
  - B. Though the modern technology is a blessing, it has many dark sides.
  - C. Without a computer, we cannot imagine our modern life.
  - D. If you don't use it, you cannot keep pace with the modern world.

v. Identify the sentence which contains no errors.

- A. Neither of the two letters of credit was useful when he needed it.
- B. The baby showed a noticeable distaste for these kind of prepared baby food.
- C. There will be no more supplies unless all arrears of payment were cleared by next Monday.
- D. They have been very close friends until they quarreled.

3. Read the passage and answer the following questions.

### Scientists Are Mapping the World's Largest Volcano

- A. After 36 days of battling sharks that kept biting their equipment, scientists have returned from the remote Pacific Ocean with a new way of looking at the world's largest - and possibly most mysterious - volcano, Tamu Massif.
- B. The team has begun making 3-D maps that offer the clearest look yet at the underwater mountain, which covers an area the size of New Mexico. In the coming months, the maps will be refined and the data analyzed, with the ultimate goal of figuring out how the mountain was formed.

- C. It's possible that the western edge of Tamu Massif is actually a separate mountain that formed at a different time, says William Sager, a geologist at the University of Houston who led the expedition. That would explain some differences between the western part of the mountain and the main body. (i)
- D. The team also found that the massif (as such a massive mountain is known) is highly pockmarked with craters and cliffs. Magnetic analysis provides some insight into the mountain's genesis, suggesting that part of it formed through steady releases of lava along the intersection of three mid-ocean ridges, while part of it is harder to explain. (A working theory is that a large plume of hot mantle rock may have contributed additional heat and material.) a fairly novel idea.
- E. Tamu Massif lies about 1,000 miles (1,600 kilometers) east of Japan. It is a rounded dome, or shield volcano, measuring 280 by 400 miles (450 by 650 kilometers). Its top lies more than a mile (about 2,000 meters) below the ocean surface and is 50 times larger than the biggest active volcano on Earth, Hawaii's Mauna Loa. Sager published a paper in 2013 that said the main rise of Tamu Massif is most likely a single volcano, instead of a complex of multiple volcanoes that smashed together. But he couldn't explain how something so big formed.
- F. The team used sonar and magnetometers (which measure magnetic fields) to map more than a million square kilometers of the ocean floor in great detail. Sager and students teamed up with Masao Nakanishi of Japan's Chiba University, with Sager receiving funding support from the National Geographic Society and the Schmidt Ocean Institute.
- G. Since sharks are attracted to magnetic fields, the toothy fish "were all over our magnetometer, and it got pretty chomped up," says Sager. When the team replaced the device with a spare, that unit was nearly ripped off by more sharks. The magnetic field research suggests the mountain formed relatively quickly, sometime around 145 million years ago. Part of the volcano sports magnetic "stripes", or bands with different magnetic properties, suggesting that lava flowed out evenly from the mid-ocean ridges over time and changed in polarity each time Earth's magnetic field reversed direction. The central part of the peak is more jumbled, so it may have formed more quickly or through a different process.
- H. Sager isn't sure what caused the magnetic anomalies yet, but suspects more complex forces were at work than simply eruptions from the ridges. It's possible a deep plume of hot rock from the mantle also contributed to the volcano's formation, he says. Sager hopes the analysis will also help explain about a dozen other similar features on the ocean floor, as well as add to the overall understanding of plate tectonics.

a) Questions (i)-(v)  
 Reading Passage has eight paragraphs, A-H.  
 Select the paragraph containing the following information.  
 Mark the correct letter, A - H, on your answer sheet.

[Marks  
 5]

CLO  
 3  
 Level  
 5

|    |   |           |                        |
|----|---|-----------|------------------------|
|    | <p>C i. Possible explanation of the differences <u>between parts of the mountain</u></p> <p>A ii. <u>A new way of looking</u></p> <p>iii. <u>Uncertainty of the anomalies</u></p> <p>iv. <u>Equipment which measures magnetic fields</u></p> <p>B v. <u>The start of making maps</u></p>  |           |                        |
|    | <p>b) Questions (vi)–(ix)<br/>Select <b>NOT MORE THAN TWO WORDS</b> from the passage to complete the sentences.</p> <p>vi. A large <u>plume</u> of _____ rock may have contributed additional heat and material.</p> <p>vii. <u>Tamu Massif</u> is a _____, or shield volcano.</p> <p>viii. Replacing the device with a _____ didn't help, as that unit was nearly ripped off by more sharks.</p> <p>ix. <u>Sager believes</u> that the <u>magnetic anomalies</u> were caused by something more than _____ from the <u>ridges</u>.</p>  | [Marks 2] |                        |
| 4. | <p>a) Innovations in the field of Artificial Intelligence (AI) continue to shape the future of humanity across nearly every industry. However, establishing strong AI is the future of artificial intelligence. AI can currently only defeat humans in a few particular skills, but it is believed that in the future, AI will be able to beat humans in all cognitive tasks. This progress comes with both positive and negative outcomes, emphasizing how crucial it is to learn AI skills to manage and influence the future carefully.</p> <p>Now, <b>compose</b> an essay discussing about “<b>The Future of Artificial Intelligence</b>”. Your description must include a <b>thesis statement, the body of the essay, and a concluding paragraph</b>.</p> | [Marks 8] | CLO<br>4<br>Level<br>6 |