

Department of English
Semester Final Examination 2022-01
Course Code: GED 02
Course Title: English Communicative Skills

Full marks: 60

Time: 3 hours

[N.B. The figures in the right margin indicate marks]

Answer any eight (08) of the following grammatical items.

1. Fill in the gaps using appropriate article. (any five) 05x01=05
 - a) Dhaka is _____ biggest city in Bangladesh.
 - b) Mina is _____ BA but her husband is _____ MA.
 - c) _____ Apple a day keeps _____ doctor away.
 - d) Do you have _____ dictionary that I can borrow?
 - e) The dress was designed by _____ famous Italian artist.
 - f) The old woman has _____ heir.
 - g) Can you tell me how to get to _____ railway station?
2. Write the sentences as active/passive choosing words from the brackets. (any five) 05x01=05
 - a) I got the letter (printed/ is printed/ is being printed).
 - b) We (arrived/ will be arrived) home.
 - c) Your parents ought (regard/ to be regarded) by you.
 - d) It (matters / mattered much).
 - e) Was the answer (memorize/ memorized) by you?
 - f) We (quest/ are quested) for knowledge.
 - g) Ice (feels/ was felt) cold.
3. Complete the following conditional sentences. (any five) 05x01=05
 - a) If it rains today,
 - b) If you study,
 - c) If she phoned me,
 - d) You will pass the exam,
 - e) If you had gone to Dhaka,
 - f) If I were you,
 - g) I would buy a car,
4. Subject-verb agreement. (any five) 05x01=05
 - a) Walking (make) a man fit.
 - b) I (have arrived) here yesterday.
 - c) I wish I (was) dead.
 - d) He (to leave) tomorrow.
 - e) Twenty miles (be) a long way.
 - f) English (speak) all over the world.
 - g) It (cost) very little to show respect to others.

Final Examination Spring-2022
B.Sc. in Computer Science & Engineering
CHEM 1101
Marks: 60, Time: 3 Hours.

[Answer any Five of the following questions]

1. (a) Define atomic number and atomic mass number with explanation. [5]
(b) Define the term isotope with examples. Write three isotope of hydrogen and draw their structure. [5]
(c) Uranium has atomic number 92 and atomic weight 238.029 Give the number of electrons, protons and neutrons in its atom. [2]
2. (a) Define Acid and base with explanation. [4]
(b) Define P^H and Indicator with two example. [4]
(c) Solve problem: The P^H of a solution of HCl is 2. Find out the amount of acid present in a liter of the solution. [4]
3. (a) Define the term solution. [2]
(b) Define mole fraction, molarity and normality. [6]
(c) Solve problem: 5g of NaCl is dissolve in 1000 gm of water. Calculate molarity and normality of solute assuming volume of solution is equal to that of solvent. [4]
4. (a) Define chemical bond. Write the name of different types of bond. [5]
(b) Write the types of bond would you find in the following compounds: $NaCl$, H_2O , O_2 , H_2 and CH_4 . [5]
(c) Describe properties of ionic compounds. [2]
5. (a) Define colligative properties. [3]
(b) State and explain the Raoult's law of vapour pressure and mathematically deduce it. [7]
(c) Define ideal and non-ideal solution. [2]
6. (a) Describe the mechanism of electrolysis. [3]
(b) Describe the mechanism of electrolysis. [6]
(c) Solve problem: 0.19979 g of copper is deposited by a current of 2.0 Amp in 55 minute. What is electro chemical equivalent of copper? [3]
7. State and explain following terms: [6×2=12]
 - i. Solar Energy
 - ii. Fire Extinguish
8. (a) Define the term Quantum number" [3]
(b) Classify and describe different types of quantum number. [7]
(c) Does 2d and 3d orbital exist? [2]

Semester Final Examination- 2022/01
Department of CSE
MATH 1101: Differential Calculus and Co-ordinate
Geometry

Marks: 60

Time: 03:00 hours

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

[Answer any five of the following questions]

01. a) Define Odd function and Even function with examples. 2
 b) Define limit with a suitable example. 2
 c) By $(\delta - \epsilon)$ definition of limit, prove $\lim_{x \rightarrow 2} \frac{2x^2 - 8}{x - 2} = 8$ and find the value of δ when $\epsilon = 1$. 4
 d) Find $\lim_{x \rightarrow 0} \left(\frac{1}{\sin x} - \frac{1}{\tan x} \right)$. 4
02. a) Find $\lim_{x \rightarrow 0} \frac{e^x - e^{-x} - 2x}{x - \sin x} = 2$, with the help of L'Hospital's rule. 4
 b) The function f is defined as follows: 5
- $$f(x) = \begin{cases} -x & \text{when } x \leq 0 \\ x & \text{when } 0 < x < 1 \\ 2 - x & \text{when } x \geq 1 \end{cases}$$
- show that it is continuous at $x = 0$ and $x = 1$. 3
- c) Find the derivative of the function $\sin 2x \cos x$ with respect to x . 4
03. a) Find, from the definition of differentiation, derivative of the function $\sin x$. 4
 b) If $y = e^{\cos^{-1} x}$, show that 8
- i. $(1 - x^2)y_2 - x y_1 - y = 0$.
 ii. $(1 - x^2)y_{n+2} - (2n + 1)x y_{n+1} - (n^2 + 1)y = 0$. 5
04. a) Find the expansion of the function e^x . 7
 b) Examine whether $x^{1/x}$ possesses a maximum or a minimum and determine the same. 7

Final Examination 2022/01
B.Sc Engineering in CSE
CSE 1102: Programming Fundamentals

Full Marks: 60

Time: 3Hours

[N.B. Marks are indicated at the right side of each question]
[Answer any FIVE sets from the following questions]

1. a) What is C programming Language? 2
b) Describe the basic structure of C Program with examples. 6
c) Explain why we learn C Languages 4
2. a) Write the differences between Logical operator and Bitwise operator 4
b) Describe the Assignment operator and Relational operator in C Languages 4
c) Define keywords, Identifiers and token 4
3. a) Define variable with examples 2
b) Write the differences between primitive and non primitive data types 5
c) Write the meaning and examples of format string %d, %s, %f, %c 5
4. a) Describe nested if.....else statement with examples 6
b) Write the output of this following code 6

```
for(i=0; i<5; i++)  
{ if (i = 3)  
    continue;  
  printf("%d", i);  
}
```
5. a) Write a C program by using the do.....while loop 6
b) Find out any errors and write the correct code 6

```
#include<stdio.h>  
int main()  
{ float a= 5;  
  int b= 10.5;  
  c= a+b  
  printf("%d", c);  
}
```
6. a) How we initialize 2D arrays in C Languages 4
b) Define an array with examples 2
c) Write a C program using array in the following series 6
1+2+3+.....+n
7. a) Write the differences between structure and union in C Languages 4
b) Write a C program that operates in break statement 6
c) Write the differences between 1D and 2D array in C Languages 2

১ম বর্ষ ১ম সেমিস্টার ফাইনাল পরীক্ষা ২০২২/০১

কোর্স কোড: GED 01

কোর্স শিরোনাম: বাংলা ভাষা

সময়: ৩ ঘণ্টা

পূর্ণমান: ৬০

[বি. দ্র.: সকল প্রশ্নের মান সমান $১২ \times ৫ = ৬০$]

যেকোনো পাঁচটি প্রশ্নের উত্তর দাও

- ১। ধ্বনি পরিবর্তনের কারণ ও সূত্রাবলি আলোচনা কর।
- ২। ণ-ত্ব ও ষ-ত্ব বিধানের সংজ্ঞা উল্লেখপূর্বক ণ-ত্ব ও ষ-ত্ব বিধানের নিয়মাবলি ব্যাখ্যা কর।
- ৩। ভাষার সংজ্ঞা উল্লেখপূর্বক সাধু ভাষা ও চলিত ভাষার মধ্যে পার্থক্য দেখাও।
- ৪। ছন্দ চিহ্নের ব্যবহার বিষয়ক একটি আলোচনা উপস্থাপন কর।
- ৫। বাংলা একাডেমি প্রণীত প্রমিত বাংলা বানানের ১২ টি নিয়ম ব্যাখ্যা কর।
- ৬। ভাষার সংজ্ঞা দাও? মানব জীবনে ভাষার গুরুত্ব আলোচনা কর।
- ৭। বাংলা ভাষার উদ্ভব ও ক্রমবিকাশ আলোচনা কর।
- ৮। যেকোন বিশ্ববিদ্যালয়ে প্রভাষক পদে নিয়োগ প্রাপ্তির জন্য একটি আবেদনপত্র লিখ।

Robindra Maitree University

Kushtia, Bangladesh

Subject: Chemistry

Course code: Chem 1101

Marks: 20

(Any two questions) $10 \times 2 = 20$

1. a) Define atomic number and atomic mass number with explanation. 5
- b) Define the term isotope with examples. 3
- c) Write three isotope of hydrogen and draw their structure. 2

2. a) Define Acid and base with explanation 4
- b) Define P^H and Indicator with two examples. 2
- c) solve problem: The P^H of a solution of Hcl is 2 4
 find out the amount of acid present in a
 litre of the solution.

3. a) Define the term solution. 2
- b) Define mole fraction, molarity and normality. 6
- c) Solve Problem: 5g of Nacl is dissolve in 1000 gm of 2
 water. Calculate molarity and normality of solute
 assuming volume of solution is equal to that of solvent.

Semester Final Examination 2022/01

B. Sc Engineering in Computer Science Program

CSE 1101: Introduction to computer systems

Marks: 60

Time: 3.00 Hour

[The figures in the right margin indicate full marks for the respective question.]

[Answer any FIVE sets rest of the following questions.]

1. a) Define computer. 2
b) Draw the block diagram of a computer and briefly explain about it. 6
c) Distinguishes between software and firmware. 4
2. a) What is Radix? 2
b) Write down positive impact and negative impact of a computer. 4
c) Draw the diagram of characteristics of computer and describe at least three characters. 6
3. a) What is ALU? 2
b) Solve the following: 2
i. $(750.45)_8 = (?)_{16}$
ii. $(ABC)_{16} = (?)_8$ 2
iii. $(250.20)_{10} = (?)_2$ 3
c) Distinguishes between digital computer and analog computer. 3
4. a) Describe about microcomputer and super computer. 4
b) Create the circuit and draw the following truth table for the following theorem: 8
i. $\overline{A + B + C} = \overline{A} \overline{B} \overline{C}$
ii. $\overline{ABC} = \overline{A} + \overline{B} + \overline{C}$
5. a) What is CPU? 2
b) Prove the following equations: 2
i. $A + AB = A$ 2
ii. $A(\overline{A} + B) = AB$ 2
iii. $(A + B)(A + C) = A + BC$ 3
c) Solve the followings: 1
i. $(47)_8 + (25)_{10} = (?)_{10}$ 1
ii. $(2B.C5)_{16} + (407.36)_8 = (?)_{16}$ 2
6. a) Subtract $(-8)_{10}$ and $(6)_{10}$ by 1's complement method. 3
b) Add $(-8)_{10}$ and $(-6)_{10}$ by 1's complement method. 3
c) Subtract $(-56)_{10}$ and $(27)_{10}$ by 2's complement method. 6

Mid-Term Examination 2022/01
B.Sc. Engineering in Computer Science Program
CSE 1101: Introduction to Computer Systems

Marks: 20

Time: 1.5 Hour

[The figures in the right margin indicate full marks for the respective question.]

[Answer any TWO sets rest of the following questions.]

- | | | | |
|----|----|--|---|
| 1. | a) | Define Computer. | 2 |
| | b) | Draw the diagram of characteristics of computer and describe at least two characters | 4 |
| | c) | I. $(757.57)_8 = (?)_{10}$ | 4 |
| | | II. $(28.125)_{10} = (?)_2$ | |
| 2. | a) | Define Primary storage. | 2 |
| | b) | Explain about Super computer. | 3 |
| | c) | I. $(5DC.AF)_{16} = (?)_{10}$ | 5 |
| | | II. $(5A.2C)_{16} = (?)_2$ | |
| 3. | a) | What is Radix? | 2 |
| | b) | Distinguishes between Software & Firmware. | 3 |
| | c) | I. $(10101.11)_2 = (?)_8$ | 5 |
| | | II. $(750.80)_{10} = (?)_{16}$ | |
| | | III. $(DADA)_{16} = (?)_8$ | |

Rabindra Maitree University, Kushtia-7000

Midterm Examination- 2022/01

Department of CSE

MATH 1101: Differential Calculus and Co-ordinate Geometry

Marks: 20

Time: 01:30 hours

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

[Answer any **Two** of the following questions]

01. a) Define Odd function and Even function with examples. 2
 b) Define limit with a suitable example. 2
 c) By $(\delta - \epsilon)$ definition of limit, prove $\lim_{x \rightarrow 2} \frac{2x^2 - 8}{x - 2} = 8$ and find the value of δ when $\epsilon = 1$. 3
 d) Find $\lim_{x \rightarrow 0} \left(\frac{1}{\sin x} - \frac{1}{\tan x} \right)$. 3
02. a) Find $\lim_{x \rightarrow 0} \frac{e^x - e^{-x} - 2x}{x - \sin x} = 2$, with the help of L'Hospital's rule. 3
 b) The function f is defined as follows:

$$f(x) = \begin{cases} -x & \text{when } x \leq 0 \\ x & \text{when } 0 < x < 1 \\ 2 - x & \text{when } x \geq 1 \end{cases}$$
 5
 show that it is continuous at $x = 0$ and $x = 1$.
 c) Find the derivative of the function $\sin 2x \cos x$ with respect to x . 2
03. a) Find, from the definition of differentiation, derivative of the function $\sin x$. 5
 b) If $y = e^{\cos^{-1} x}$, show that $(1 - x^2)y_2 - xy_1 - (n^2 + 1)y = 0$. 5

07. Expansion of Function (iii) e^x

08. Maxima and minima

(iii) Examine whether $x^{1/x}$ possesses a maximum or a minimum and determine the same.

09. Co-ordinates,

(ii) Find the cartesian co-ordinates of the point whose polar co-ordinates are $\left(4, \frac{5\pi}{4} \right)$.

(iii) Find the distance between the points (x_1, y_1) and (x_2, y_2) .