International Islamic University Chittagong
Centre for General Education
Midterm- Examination, Spring- 2024
Course Code: UREM-1101
Course Title: Text of Ethics and Morality

Marks: 30 **Duration: 1.30 hours**

Answer the following questions

SL	Questions	Marks	CLOs	Blooms taxonomy domain
01	a) Explain the meaning of ethics and morality. b) Discuss the necessity of Ethics and morality in our professional and personal life. Or e) Write the meaning of Surah Al Faatiha f) Write the introduction to Arabic language in details	4 6 5 5	CLO-1 CLO-1	Analyze & Remember Remember & Understand
02	Answer the following questions: a) Write the different name of surah Fatiha. b) Write characteristics of the muttaqi according to 1-5 verses of Surahtu Baqarah c) Write the meaning of sura Iklas.	4 4 2	CLO-1	Understand
03	e) What are bad behaviors mentioned in sura hujraat? Explain the bad impact of some suspicion and backbite in the society. f) Write the procreation of the creation of humankind. OR m) How many suras in the Quran? n) How many types and what are they? o) What is the difference between the two? p) How many suras do not have names in the text q) and how many suras do not have Bismillah at the beginning? r) What is the point of saying Bismillah? Write in details.	5 5 1 1 1 1 1 5	CLO-2 CLO-2	Remember & Create Remember

International Islamic University Chittagong

Centre for General Education (CGED)

Mid-term Examination Spring-2024

Course Code: UREL-1106 Course Title: Advanced English

Time: 1 Hour & 30 Minutes Full Marks 30(including 5 for speaking)

Section-A: Reading Part

Read the following passage carefully and answer the questions.

Students working for their first degree at a university are called undergraduates. When they take their degree we say that they graduate, and then they are called graduates. If they continue studying at university after they have graduated, they are called post-graduates.

Full-lime university students spend all their time studying. They have no other employment. Their course usually lasts for three or four years. Medical students have to follow a course lasting for six or seven years. Then they graduate as doctors. In Britain, full-time university students have three terms for about ten weeks in each year. During these terms they go to lectures or they study by themselves. Many students become members of academic societies and sports clubs and take part in their activities. Between the university terms they have vacations (or holiday periods). Their vacations are long, but of course they can use them to study at home.

Some universities, like Oxford and Cambridge in England, are residential. This means that during the university terms the students official list. The university and college buildings are often very old, and amongst them are fine examples of ancient architecture. Other universities are non-residential. Some of the students at these universities can live in a university hostel, but many live at home or in lodgings and have to travel daily to their lectures. Large cities often have universities of this kind. Sometimes the students have to spend quite a lot of time on their journeys, so they cannot join in student activities as easily as students in residential universities can.

Full-time students are also called internal students, because they spend all their time at university. There are also external students who cannot attend the university full-time but who are studying for its examinations. They are part-time students. They have to do other work during the day, usually to earn their living and they study in the evening.

For admission to any degree course, a student has to pass qualifying examinations. In Britain there are not enough places for every secondary school student, so these examinations are competitive. This means that only the students with the highest marks can gain admission. However a few older people are able to gain admission without the full qualifications, if the university thinks that they are suitable candidates.

1. **Decide whether the sentences are right or wrong.** 0.5×4=2
   a. All students in large cities are residential students.
   b. Some students live in university colleges or hostels.
   c. They spend most of their vacations attending lectures.
   d. All students stay at university for three or four years.
2. **Answer according to the instructions given.** 1×2=2
   a. Students continuing study after graduation are called_____ (Fill the gap with a word from the passage.)
   b. Find a word from the passage to match the phrase *The study of designing buildings*.
3. **Re-write the sentences replacing the italics words in without changing meaning.** 1×2=2
   a. Most undergraduate students are *full time students*.
   b. Most universities in large cities in Britain are *non residential*.
4. **Give answer in ONE complete sentence to these questions.** 1×2=2
   a. How long does a university term in the UK last?
   b. What difference do you find between part time and full time students?

Read the following passage carefully.

The new school curriculum and textbooks have been grabbing headlines and sparking intense debate in the press and social media—and even prompting protests on the streets. All these have created a cacophony of noise, but have not shed enough light on the problem that could lead to a reasonable understanding of the issues and finding practical solutions.

Controversies about the contents of the curriculum and textbooks have arisen from time to time. For example, in 2013, media reported more than 200 errors—misinformation, wrong names of writers and grammatical mistakes in sentences—in the higher secondary economics textbook. The new round of curricular reform and textbook re-writing that began to be implemented in phases since 2022, has given rise to a spate of debate pointing to different kinds of problems with the new initiative.

A recent controversy arose when a university instructor, in a public event, ripped off pages from a Class 7 textbook about the experience of a "third gender" person. The incident received wide publicity on social media and in the press. Rights of individuals, respect for diversity, religious sensitivities about genders, teaching empathy for the marginalized and age-appropriate learning content—all came to the fore because of this incident. Different protagonists became vocal with their own respective agenda. A reasoned consideration of the issue, if there was an issue, became the casualty.

Parents and teachers' groups have expressed their concerns about the change in the pedagogy practices in the classroom and the assessment of students' performance required by the new curriculum. They have complained about what they saw as drastic changes for which the teachers and students were not prepared and which would not lead to better learning outcomes. A committee of experts and practitioners, including teachers and some who are not directly involved in the current initiative, should be appointed to assess objectively and rapidly the problems encountered in implementing the proposed pedagogy and assessment approaches.

5. **Answer the following questions.** 01×7=07

a) The incident received ***wide publicity*** on social media- rewrite the sentence replacing the words in italics.
b) **'Methods or styles of teaching'**- find synonym for the expression from the passage.
c) What has been suggested in the passage to end the debate about school curriculum?
d) Any ____ to end eve- teasing from the society may be appreciated.
e) Teachers and students are well prepared to accept the changes in present curriculum-write if the statement is true or false?
f) What do you understand by- **'respect for diversity'?**
g) Make a sentence of your own with **'intense debate'.**

Section B: Grammar Part

6. **Answer the questions according to the directions.** 1x5=5

a. My friend together with his parents (are/ is) attending the program. (Show proper sub verb agreement)
b. If Shahin had not mentioned her name, I hardly think I(recognize) her. (Use the right form of verb)
c. The teacher had the students to rewrite the story in the class. (Correct the sentence if necessary.)
d. Five years (are/is) the maximum time to finish the project.(Show proper sub verb agreement)
e. The brakes were defective. The engines needed repair too (Join two sentences with not only … but also)

Section-C: Writing Part

7. **Answer any one of the following** 05

Write a paragraph on the topic given below:

Use of Internet in learning

Or

Rahela, like many other homemakers is facing very hardest time now for unusual price hike of essential goods. She lives with her day laborer husband and five children in a hut. She does not know how to provide meals to her children. So she....(Expand these sentences into a complete story)

8. Speaking test. (It was taken by the concerned teacher in a convenient time) 05

Struggle

International Islamic University Chittagong
Morality Development Program

Midterm Examination, Spring-2024
1st Semester *(other than Shari'ah faculty)*

Course Title: *Tajweedul Qur'an*-I Course code: MDP-1101

Full Marks: 30 Time: 1.50 Hours

Answer the following questions.

Question No-1

Write the meaning of the following Surah (any two) 2x5=10

a) SuratulFatiha
b) SuratulFalaq
c) SuratuLahab

Question No-2 4+4+2=10

Answer the following Questions:

a) Write the Arabic alphabets.
b) Define haraka, sukun, Tanveen and Tashdid.
c) Write the meaning of tajweed.

Question No-3 2+4+4=10

a) Write the main articulation points of arobic alphabet.
b) Write the makhraj of:

ق ، س ، ط ، ظ

c) Write the letters of throat with their places.

OR

b) Define madd. How many kind of madd? explain. 5+5=10

International Islamic University Chittagong (IIUC)
Department of Computer Science and Engineering (CSE)
Mid Term Examination

Program: B. Sc. in CSE | Semester: Spring-2024
Course Code: MATH-1107 | Course Title: Mathematics-I
Time: 1:30 hours | Total Marks: 30

(i)	Answer all the questions. The figures in the right-hand margin indicate full marks.
(ii)	Please answer the several parts of a question sequentially.
(iii)	Course Learning Outcomes (CLOs) and Bloom's Levels are mentioned in additional Columns.

Course Learning Outcomes (CLOs) of the Questions

CLO1:	Compute the functions, limit and continuity of a function, derivatives, integrals and extrema of single-variable and/or multivariable functions.
CLO2:	Understand the techniques of differentiation and integration.

Bloom's Taxonomy Domain Levels of the Questions

Letter Symbols	R	U	Ap	An	E	C
Meaning	Remember	Understand	Apply	Analyze	Evaluate	Create

			Marks	CLOs	DLs
1.	a)	Find the Maclaurin Series for the function $f(x) = \log(1+x)$	2	CLO1	U
	b)	Find the domain and range of the function, $f(x) = \lvert x+3 \rvert + \lvert x-3 \rvert$	2	CLO1	U
	c)	Test the differentiability of the following function at $x = \frac{3}{2}$	3	CLO1	App

$$f(x) = 3 + 2x; \quad -\frac{3}{2} \le x < 0$$

$$= 3 - 2x; \quad 0 \le x \le \frac{3}{2}$$

$$= -3 - 2x; \quad x \ge \frac{3}{2}$$

Or

Test the differentiability of the following function at $x = 0$

$$f(x) = 1; \quad x < 0$$

$$= 1 + \sin x; \quad 0 \le x < \frac{\pi}{2}$$

$$= 2 + (x - \frac{\pi}{2})^2; \quad x \ge \frac{\pi}{2}$$

	d)	Evaluate the limit using L'Hospitals rules for $\lim_{x\to 0}\frac{\tan x-\sin x}{x^3}$	3	CLO1	U
		Or			
		Differentiate $\tan^{-1}\frac{2x}{1-x^2}$ with respect to $\sin^{-1}\frac{2x}{1+x^2}$.			
2.	a)	Find the differential co-efficient of $\sin x$ by the first principle method.	3	CLO2	U
	b)	If $y=\log\sec(ax+b)^3$, find $\frac{dy}{dx}=?$	3	CLO2	U
	c)	The radius of a circle increases at a rate of 3 cm/sec. Find the rate of change of the area when i) the radius is 5 cm ii) the area is 4π cm^2	4	CLO2	App
3.	a)	If $y=x^n\log x$;Prove that $y_{n+1}=\frac{n!}{x}$	6	CLO2	App
	b)	Suppose we are asked to determine whether Rolle 's Theorem can be applied to $f(x)=x^4-2x^2$ on the closed interval [-2, 2]. And if so, find all values of c in the interval that satisfies the theorem	4	CLO2	R&U
		Or			
		Verify the Mean Value Theorem for $f(x)=2x^3-8x+1$ when $a=1$ and $b=3$		CLO2	R&U

International Islamic University Chittagong
Department of Computer Science and Engineering

Mid Term Examination, Spring-2024 | **Program: B.Sc. Engineering in CSE**

Course Code: **EEE-1121** | Course Title: **Basic Electrical Engineering**

Time: 1 hour 30 minutes | Full Marks: 30

[Answer all the questions from the followings. Figures in the right margin indicate full marks]
Course Outcomes (COs) and Blooms Levels are mentioned in additional columns.

Marks

1) a) Explain the followings 3 terms and find v and I from the circuit given in fig.01

i) Ohm's Law ii) Kirchhoff's Voltage Law iii) Kirchhoff's Current Law

CO1 Ap 5

Fig.01

1) b) **i)** In Fig.02 R_1, R_2, and R_3 are given. What are R_a, R_b, and R_c?

ii) In R_a, R_b, and R_c are given. What are R_1, R_2, and R_3?

CO1 AP 5

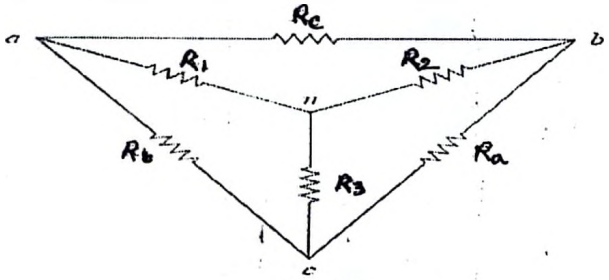


Fig.02

Or

1) b) Calculate the equivalent resistance R_{ab} at terminals *a-b* for each of the circuits in Fig 3a & 3b

CO1 AP 5

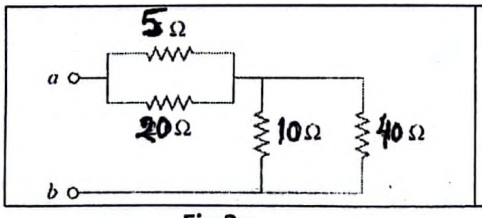


Fig 3a

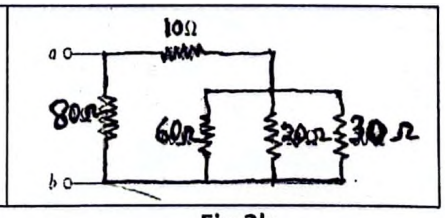


Fig-3b

2) a) Find the node voltages From Fig-04

CO2 E 5

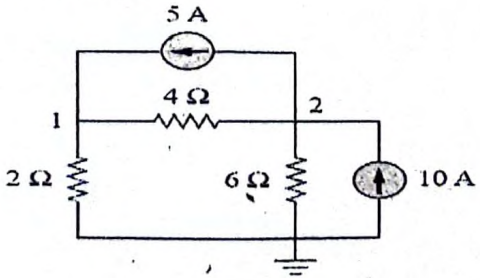
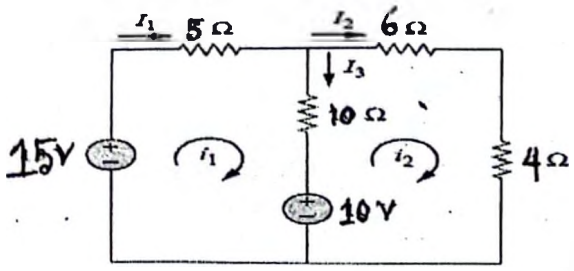


Fig-04

2) b) Using mesh analysis, find I_1, I_2, I_3 from the circuit shown in **Fig.05**

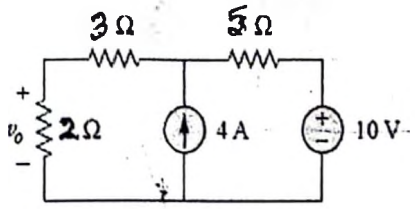


CO2 An 5

Fig. 05

Or

2) b) Using Superposition theorem find v_o from Fig 06



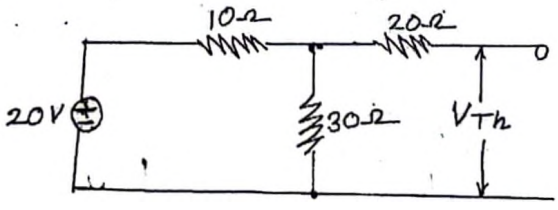
CO2 An 5

Fig 06

3) a) i) How to convert a voltage source to a current source?
ii) How to convert a current source to a voltage source?

CO2 E 2

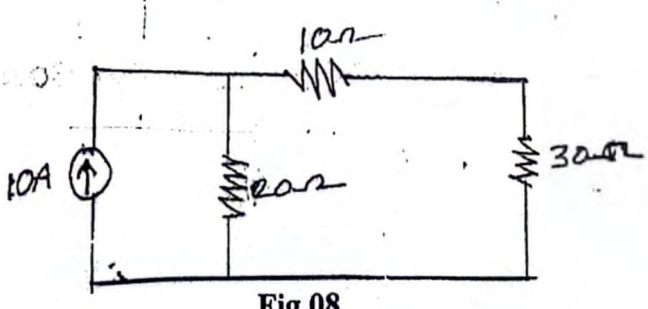
3) b) Calculate V_{th} and R_{th} for Thevenin's equivalent circuit shown in Fig-07



CO2 E 4

Fig.07

3) b) Calculate the current through resistance 30 ohms using Norton's Theorem.



CO2 Ap 4

Fig.08

International Islamic University Chittagong
Department of Computer Science and Engineering
B.Sc. in CSE
Mid-Term Examination, Spring-2024
Course Code: **PHY-1101** Course Title: **Physics-I**
Time: 1 hour 30 minutes Full Marks:30
(i) Answer **all** the questions. The figures in the right-hand margin indicate full marks.
(ii) Course Learning Outcomes and Bloom's Levels are mentioned in additional Columns.

1.	a)	What exactly is meant by the radius of gyration? Explain.	CLO1	R	02
	b)	State and prove the theorem of parallel axis in moment of inertia.	CLO1	U	05
	c)	A flywheel of mass 100 kg and radius 0.5 m makes 10 revolutions per second. Calculate (i) angular velocity, (ii) moment of inertia, and (iii) the energy of the flywheel. Assume that the whole mass of the flywheel is concentrated at the rim.	CLO2	An	03
2.	a)	What is gravitational field intensity?	CLO1	R	01
	b)	Derive an expression for the gravitational potential due to a spherical shell at a point inside the shell.	CLO1	U	06
	c)	If a body is projected in such a way that it escapes the earth's gravitational field. Then find the required velocity of that body.	CLO2	An	03
		Or			
		What is the gravitational potential with respect to the sun at the position of the earth? The mass of the sun is 1.99×10^{30} kilograms and the mass of the earth is 5.98×10^{24} kilograms. The mean earth-sun distance is 150×10^{6} kilometers.			
3.	a)	Derive an expression for the time-dependent Schrödinger wave equation.	CLO1	U	07
		Or			
		Derive an expression for the gravitational potential at a point due to a point mass, and hence calculate the gravitational field intensity at that place.			
	b)	Find the uncertainty in the momentum of a particle when its position is determined within 0.01 cm. Find also the uncertainty in the velocity of an electron and an alpha particle respectively, when they are located within 5×10^{-8} cm.	CLO2	An	03

International Islamic University Chittagong

Department of Computer Science & Engineering

B.Sc. in CSE, Mid Term Examination, Spring 2024

Course Code: CSE-1121 **Course Title:** Computer Programming 1

Total Marks: 30 **Time:** 1 Hour 30 Minutes

[Answer all the following Questions. Figures in the right-hand margin indicate full marks]

1(a) Identifies which of the following statements are valid and explain why? 2

i. int void ii. # Define x=4 iii. const float cost$ 50 iv. typedef int auto

1(b) Write a C program that takes an integer N as input and counts the occurrences of the digits 5 or 3 in the range from 1 to N (inclusive) and summing up the digits. Ensure that your program handles all cases efficiently and accurately. 2

or 1(b) Write a C program that takes two integers, A and B, as input, and calculates the remainder when A is divided by B. Ensure your program handles cases where B is zero gracefully. 2

1(c) Find the output of the following code segments: 2

[Replace X with the second last digit of your ID, and Y with the last digit of your ID. For example, if your ID be C231025, then X= a = 2, Y = 5]

(i)
```
int option = Y%a;
switch(option) {
   case 0:
      printf("We are all even.");
      break;
   case 1:
      printf("We are all odd");
      break;
   default:
      printf("Invalid option");
}
```

(ii)
```
double a = -X.7;
double b = fabs(floor(a)+ceil(a);
printf("%lf", b);
```

(iii)
```
int b = a.5 + Y.5;
printf("Z = %d\n", b);
```

(iv)
```
int b;
b = ++a + a- - -a;
printf("%d", b);
```

1(d) An electricity board charges (*Energy charge*) the following rates to domestic users to discourage large consumption of energy: 4

For the first 150 units: Tk. 4.5 per unit

For Next 300 units: Tk. 5.5 per unit

Beyond 450 units : Tk. 7 per unit

All users are charged a minimum of Tk. 120/- for Energy charge. If the total cost of Energy charge is more than Tk. 10000/- then an additional surcharge of 15% is added. Write a C program to read the number of units consumed and print out the Net Bill.

2(a) Write a C program to calculate the total cost of a shopping list based on the items purchased. The program should take the item code and quantity as input from the user and calculate the total cost. The items and their respective codes are as follows: 3

Item 1: Apple - Code: 1 - Cost: $1.50 per apple
Item 2: Banana - Code: 2 - Cost: $0.75 per banana
Item 3: Orange - Code: 3 - Cost: $2.00 per orange
Item 4: Mango - Code: 4 - Cost: $3.50 per mango

The program should display the total cost based on the user's input. If an invalid item code is entered, the program should display a message indicating that the item is not available. Solve the problem using switch case.

2(b)

```
int x = 5;
int y = XY%10; // Here XY is the last two digits of your ID

if (x > 0)
   if (x == 7)
      x -= 3, y += 5;
else
   x *= 2, y -= 4;

printf("x = %d y = %d", x, y);
```

What will be the values of a and b if n assumes a value of 3
(i) 7
(ii) 5
(iii) 0
Explain with rough calculations.

2(c) A software development team is recruiting a new member. There are three candidates: Alice, Bob, and Charlie. The candidate with the highest coding skills score will be selected. You are given their scores (out of 100) in the first line. Print the name of the selected candidate. If no candidate meets the minimum requirement, print NONE. 4

Or 2(c) You're selling merchandise for a charity event. Each item has a price and quantity. 5% Discounts apply based on total purchase amount. Write a program to calculate the final cost after applying discounts. 4

Sample input : 500 3
Sample output: 1350

3(a) Write the outputs of the following code segments: 3
[Replace X with the second last digit of your ID, and Y with the last digit of your ID. For example, if you ID be C211278, then X = 7, Y = 8]

(i)
```
int i = 0;
while (i < X) {
   printf("%d ", i);
   i++;
}
```

(ii)
```
do {
   printf("%d\n", X);
   Y--; X++;
} while (Y>X);
```

(iii)
```
int n = XY;
for ( ; ; ) {
   printf("%d\n", n);
}
```

3(b) You are tasked with developing a program to calculate the final grades for students based on their scores in different subjects. The grading scheme is as follows: 3

Each student has scores in four subjects: Math, Science, English, and History. The scores range from 0 to 100. The final grade is determined based on the average score across all subjects:

90 or above: A	80 - 89: B	70 - 79: C	60 - 69: D	Below 60: F

Write a program that takes input for each student's scores in the four subjects and outputs their final grade.

3(c) Write a program to print the first N terms of a series where each term is the summation of the previous two terms. The first two terms of the series are given: $S_1 = 1$ *and* $S_2 = 1$. For i>2, each term of the series is the sum of the previous two terms: $S_i = S_{i-1} + S_{i-2}$. 4

The series follows the pattern: 1, 1, 2, 3, 5, 8, 13, 21, ...

Or 3(c) Write a program to reverse a given positive integer. Your program should repeatedly divide the input number by 10 and extract the remainder to build the reversed number. 4

For example, if the input is 123, the reversed number should be 321.