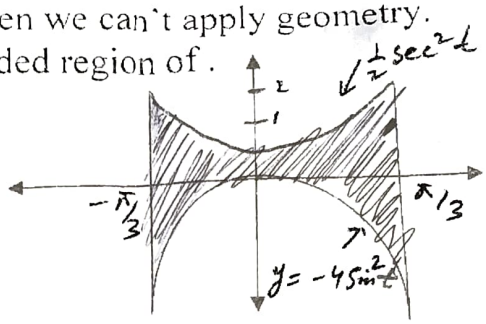
Year: 2019
Department: Electrical, Electronics and Telecommunication Engineering
University: UET (Lahore) Faisalabad Campus
Exam: Final Term
Session: 2018
Total Marks: 40
Semester: 1st
Subject: Calculus
Time allowed: 90 Mints

Note: Attempt all question and they carry same marks.

Questions	Statement	Marks	CLO's
1	a) Solve $\frac{dy}{dx}$ of $\left(\int_0^x (t^3+1)^{10} dt\right)^3$.	3.5	2
	b) Define integration in two different ways and write one of its main uses when we can't apply geometry.	3	2
	c) Evaluate the shaded region of . 	3.5	2
2	a) Carry out the volume of solid generated by revolving $y = x^2$, $y = o$, $x = 2$ about suitable axis.	4	2
	b) Define solid of revolution and write the shape of object which we will get after revolving the semi circle about x-axis.	3	2 2
	c) Solve for the length of the curve $y = \left(\frac{x}{2}\right)^{\frac{2}{3}}$ from x=0 to x=2.	3	
3	a) Carry out $\int_1^2 \int_0^{\sqrt{2x-x^2}} \frac{dydx}{(x^2+y^2)^2}$.	4	2
	b) Evaluate the double integral of $\int_0^{\pi} \int_x^{\pi} \frac{\sin y}{y} dydx$.	4	2
	c) Define Riemann sum in two variable case both for Cartesian and polar coordinates.	2	2
4	a) Explain the extreme values of $ysin(x)$.	4	2
	b) Describe the cubic approximation of Taylor series for two variables.	1.5	2
	c) Design a surface whose normal vector is 2i+3j-5k.	1.5	
	d) Define Laplace equation.	1	
	e) Define directional derivative and write the conditions under which it is maximum, minimum and no change direction.	2	

2018-EE-433

University of Engineering and Technology, Department of Electrical Engineering FSD

Subject: Sociology Mid Exam Total Marks: 30 Time: 60 minutes

Attempt all the questions. and all the questions carry equal marks.

Q1. Define the sociology? Sociology subject was emerged and progressed with the advent of modern technology and urbanization. Write a brief note on the historical development of sociology keeping in view/perspective of pioneering Sociologist. (10)

Q2. Different societies have varied norms and values that guides its inhabitants/people to live in a society as good citizen. What is norms and values and explain the types of norms keeping in view the examples of Pakistani society. (10)

Q3. Our society have long history to reach the current phase of social and economic development. Different sociologists have their own views of evaluation of human society from hunting and gathering society to post modern society. Write down the sociological thought of Gerhard Lenski who presented the idea that the society was evolved only due to onset of new technology. Point out how technology foreshadowed/transformed the society. (10)

Department of Electrical, Electronics & Telecommunication Engineering

UET Lahore - Faisalabad Campus

Mid Term Examination, Electrical 2018 (1st Semester)

Subject: Introduction to Computing **Total Marks:** 30

Lecturer: Zain Murtaza **Time Allowed:** 60 Minutes

Question 1: (2+2+2+2) **[CLO 2]**

a- Why do we use escape sequence? Mention any two escape sequences.

b- What is difference between implicit variable casting and explicit variable casting? Mention at least one difference and give an example.

c- What is output of following expression in C?

2 + 3 * 6 % 10 – 4 / 2 = ?

d- Draw the flow charts of if statement and while statement.

Question 2: (4+4) **[CLO 2]**

a- Write the output of following programs

```
// Program 1

#include <stdio.h>

void main(){
  int thorin=1;
  while(thorin<6)
  thorin=thorin+2;
  printf("%d",thorin);
  if(thorin==5);
    printf("%d\n",thorin+1);
  if(thorin==7)
    printf("He%dllo",thorin);

}
```

```
// Program 2

#include<stdio.h>

void main(){

   float uet = 3.14;
   int fsd = uet;
   if(0)
      printf("%d", fsd);
      uet = uet +1;
   if(fsd==4-1)
      printf("%f/",uet);
   }
```

uet = 3.14

fsd = 3

4.14

b- Indicate the errors (runtime/syntax)

```
// Program 1

#include<stdio.h>

void main(void){

   int x,y;
   int x = 1;
   printf("%dd", y);
   // printfff(hahaha");
   while(22);
    printf("I dislike coding");
    }
```

```
// Program 2

#include<stdio.h>
#include <conio.h>
void main(){

   int x = 2;
   if(x == 2)
      printf("%f",x);
      printf("Alchemist");
   else
      printf("Time Management");
   getch();

}
```

*Note: Dislike coding is a serious problem but unfortunately not an error in C.

Question 3: (7+7) **[CLO 2]**

1- Write a program which asks the user to enter any number. Display the square of the number if the entered number is even. Display the cube of the number if the entered number is odd.

2- Write a program which displays first 10 natural numbers in reverse order except the number 5 using a single while loop.

$x = i - 1$

2018-EE-433

Year: 2018
Department: Electrical, Electronics and Telecommunication Engg
Faisalabad Campus

Exam: Mid Term **Semester**: 1st (Session 2018)
Total Marks: 30 **Time allowed**: 60 Mints

Questions	Statement	Marks	CLO
1	a) Define point of inflection and write the function which does have point of inflection over the entire real line.	2	1
	b) Identify an example of a differentiable function which is not continuous.	1	1
	c) State the difference between secant line and tangent line.	1	1
	d) Define periodic function and write the period of $\sin(x+\frac{\pi}{2})$.	1	1
	e) Identify an example of a function which has a limit but is not continuous.	1	1
	f) Describe the domain and range of $\sqrt{(1-x)^2}$.	1.5	1
	g) Solve for the derivative of x^x.	2	1
	h) State the fields of electrical engineering in which calculus has vital role.	1	1
	a) Carry out the derivative of $\frac{3q+tanq^0}{qsecq}$ w.r.t. q and define derivative as well.	5	1
	b) State indeterminate forms and solve $\lim_{x\to\infty}(lnx)^{\frac{1}{x}}$.	5	1
	a) Define critical point and stationary point.	2	1
	b) Discuss the graph of $y=\frac{1}{x}$.	3	1
	c) Locate the extreme values of $\frac{x^2-3}{x-2}$.	5	1

2018 - EE - 433

DEPARTMENT OF ELECTRICAL & TELECOMMUNICATIONS ENGINEERING

UNIVERSITY OF ENGINEERING & TECHNOLOGY LAHORE (FSD CAMPUS)

ME. 102: Applied Thermodynamics
Semester: 1st
Examination: Mid Term
Session: 2018

Date: December 13, 2018
Time Allowed: 60 minutes
Total Marks: 30
B.Sc. Electrical Engineering

Note/Instructions: Attempt all questions.

Q1.	a) Describe PVT behavior of pure substances in phase change with neat and clean T-v, P-v and P-T diagrams?	**10**	CLO2
	b) A rigid tank contains 50 kg of saturated liquid water at 90°C. Determine the pressure in the tank and volume of the tank?	**5**	CLO2
Q2.	a) Describe the working principle of manometers with neat and clean diagram?	$\frac{5}{2}$	CLO1
	b) The absolute pressure in water at depth of 5m is read to be 145 KPa. Determine (a) the local atmospheric pressure and (b) the absolute pressure at a depth of 5m in a liquid whose specific gravity is 0.85 at the same location?	$\frac{5}{3}$	CLO 1
Q3.	a) Describe the mechanism of energy transfer in detail including all sets of equations for energy balance?	**10**	CLO2