20T C-07

QUAID-E-AWAM UNIVERSITY OF ENGINEERING, SCIENCE & TECHNOLOGY, NAWABSHAH

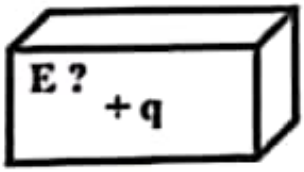
MID-SEMESTER EXAMINATION OF FIRST SEMESTER – FIRST YEAR (1st SOMESTER) 2021, 20 BATCH, B.E (TC)

SUBJECT: APPLIED PHYSICS

Dated: 04.03.2021 Maximum Marks: 20 Time Allowed: 1 Hour.

NOTE: ATTEMPT ANY TWO (02) QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.

Q. No.			CLO	Taxonomy Level	Marks
01	(a)	Discuss the Coulomb's law with mathematical description of the force between any two charges.	01	C02	05
	(b)	If a *Test* charge is brought considerably near a *Point charge*, discuss the effect of point charge over that test charge in terms of electric field and direction of force depending upon polarity of point charge.	01	C02	05
02		Apply the basic Coulomb's law and find the total electric force exerted by q1 and q2 on a charge q3 = 5.0 nC at x = 0? Given that two-point charges are located on the x-axis of a coordinate system: q1 = 1.0 nC is at x = +2.0 cm, and q2 = -3.0 nC is at x = +4.0 cm. ***Required:*** i. Sketch the charges distributed along the XY-coordinate system. ii. Individual forces on q3. iii. Resultant force on q3 by q1 and q2.	02	C03	10
03		Use the concept of electric field in relation with Gauss's law to answer the following cases. Find Electric field through the surfaces given in figure 01. ***Required:*** I. E (if zero or non-zero with brief reason) II. Direction of electric field (lines)	02	C03	10



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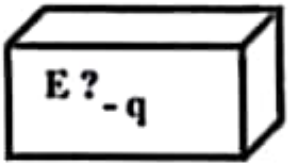

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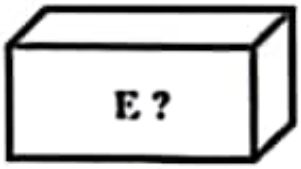

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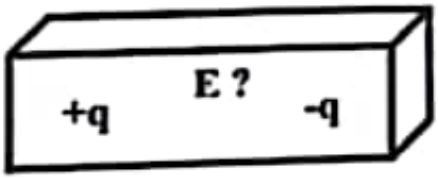

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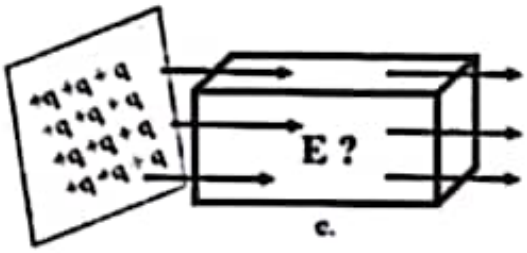

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Subject Teacher: Engr. Mujeeb ur Rehman

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QUAID-E-AWAM UNIVERSITY OF ENGINEERING, SCIENCE & TECHNOLOGY, NAWABSHAH

MID-SEMESTER EXAMINATION OF FIRST SEMESTER - FIRST YEAR (1st SEMESTER) 20 BATCH

B.E (ES/TC/ESE/EE/CH/BS (ENG)

SUBJECT: ISLAMIC STUDIES / ETHICS

Dated: 08.03.2021 Maximum Marks: 10 Time Allowed: 45 Minutes.

NOTE: ATTEMPT ANY TWO (02) QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.

ISLAMIC STUDIES (FOR MUSLIMS)

Q. 01 Write down the Surah Hujrat related to the manners in the respect of Prophet S.A.W.A and mention the actions which indicate the betterment for society.

Q. 02 Describe the qualities of believers in the light of Surah Furqan.

Q. 03 Write down the Commandments of Surah Al-Ana'am and describe the qualities of believers in the light of Surah Al-Mominoon as well.

ETHICS (FOR NON-MUSLIMS)

Q. 01 Write down the life history of Gotham Buddha.

Q. 02 Describe the value of Ethics in all religions.

Q. 03 Write down about the religion Hinduism and mention its holy days, rituals.

The End

ID. No/Seat No.

QUAID-E-AWAM UNIVERSITY OF ENGINEERING SCIENCE AND TECHNOLOGY, NAWABSHAH

MID SEMESTER EXAMINATION 2020 OF FIRST SEMESTER FIRST YEAR (20-BATCH) OF B.E. (TELECOMMUNICATION ENGINEERING)

Subject: APPLIED CALCULUS

Dated: 06-03-2021 Time Allowed: 01 Hour Max: Marks: 20

NOTE: ATTEMPT ANY TWO QUESTIONS.

Q. No		CLO	Taxonomy Level	Marks
01(a)	Define interval and its types with examples. Also define function and any three types of functions with examples.	2	C2	04
(b)	Solve the following inequalities by boundary numbers method: (i) $3x+5<x-7$ (ii) $\lvert 4x+6\rvert \geq 3$	2	C3	06
02 (a)	What is concept of continuity of function $f(x)$ at given point $x=a$. Check whether the following functions are continuous or not? $f(x)=\begin{cases}\frac{x^3-a^3}{x-a}, & 0\leq x<a \\ & \text{at } x=a \\ a, & x=a \\ 2a, & x>a\end{cases}$	2	C3	06
(b)	Differentiate between value of function and limit of function at a point $a \in \mathfrak{R}$. Also discuss the concept of left hand limit and right hand limit of function $f(x)$.	2	C2	04
03 (a)	Find the limit of the following functions: (i) $\lim_{x\to 1}\frac{x^3-1}{x-1}$ (ii) $\lim_{x\to 0}\frac{\tan 5x}{Sin2x}$ (iii) $\lim_{x\to\infty}\frac{4x^3-2x^2+1}{3x^3-5}$	2	C3	06
(b)	Find the domain and range of the following functions and draw their graphs: (i) $f(x)=\sqrt{x^2-16}$ (ii) $f(x)=2x^2+1$	2	C2	4

Name of Subject Teacher: Ms. Memoona Pirzada

---The End---

QUAID-E-AWAM UNIVERSITY OF ENGINEERING, SCIENCE & TECHNOLOGY, NAWABSHAH

MID-SEMESTER EXAMINATION OF FIRST SEMESTER - FIRST YEAR (1st SEMESTER) 20 BATCH, B.E (TC)

SUBJECT: INTRODUCTION TO COMPUTERS

Dated: 07.03.2021 Maximum Marks: 10 Time Allowed: 45 Minutes.

NOTE: ATTEMPT ANY TWO (02) QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.

Q. No		CLO	Taxonomy Level	Marks
1	Do as directed: i. Differentiate between RAM and Registers. ii. Differentiate between Hardcopy and softcopy output. iii. Why BIOS is called firmware? iv. Differentiate between system software and application software. v. What does the terms volatile and non-volatile means? vi. Name the various input, output and storage devices. vii. Covert 2MB into Bytes. viii. How computers are helpful in healthcare applications? ix. Name the different types of ROM memories x. Why a data bus is bi-directional?	1	C1	05
2 (a)	Discuss the role of address bus, data bus and control bus.	1	C1	2.5
2(b)	What is POST (Power On Self Test)?	1	C1	2.5
3 (a)	Discuss the role of following components: i- ALU ii- Control unit iii- Registers iv- BIOS	1	C1	2
3(b)	What are the various steps in boot process?	1	C1	3

Name of Subject Teacher: ... Dr. Adnan Ahmed Arain .....

---The End---

QUAID-E-AWAM UNIVERSITY OF ENGINEERING, SCIENCE & TECHNOLOGY, NAWABSHAH

FINAL SEMESTER REGULAR EXAMINATION OF FIRST SEMESTER – FIRST YEAR 2021 OF 20-BATCH, B.E (TC)

SUBJECT: APPLIED PHYSICS

Dated: 12.08.2021 Maximum Marks: 60 Time Allowed: 3 Hour

NOTE: ATTEMPT ALL QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.

Q. No.		CLO	Taxonomy Level	Mark
01 (a)	Discuss the situation in terms of force if two charges (having similar and different polarity/sign) are brought in contact with each other. Explain the law that governs that force with the help of mathematical expression.	01	02	06
01 (b)	Explain the relationship of Electric force and Electric field. Draw electric field lines due to positive and negative charges.	01	02	06
02 (a)	An average human weigh about 650 N. If each of two average humans could carry 1.0 C of excess charge, one positive and one negative, how far apart would they have to be for the electric attraction between them to equal their 650 N weight?	02	03	06
02 (b)	Two infinite plane sheets with uniform surface charge densities $+\sigma$ and $-\sigma$ are placed parallel to each other with separation d (Fig. 01). Find the electric field between the sheets, above the upper sheet, and below the lower sheet.	02	03	06

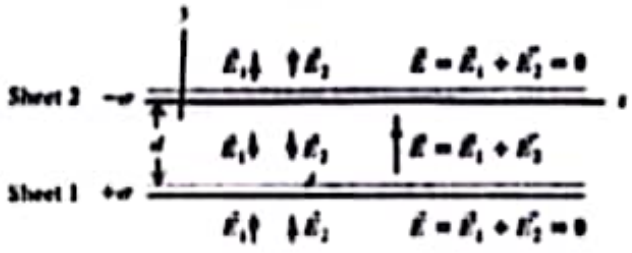
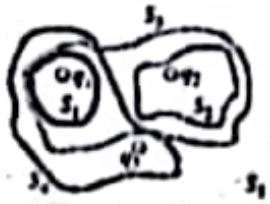


Figure 01

03 (a)	Suppose you find a sealed box on your doorstep. You suspect that the box contains several charged metal spheres packed in insulating material. How can you determine the total net charge inside the box without opening the box? Or isn't this possible? (*Hint: Use concept of Gauss's Law*)	01	02	06
03 (b)	Discuss the basic construction of a capacitor. How can we increase the capacitance? Briefly explain with the help of mathematical expression of capacitance.	01	02	06
04 (a)	The three small spheres shown in Fig. 02 carry charges q1 = 4.00 nC, q2 = -7.80 nC, and q3 = 2.40 nC. Find the net electric flux through each of the following closed surfaces shown in cross section in the figure: (a) S1; (b) S2; (c) S3; (d) S4; (e) S5. (f) Do your answers to parts (a)-(e) depend on how the charge is distributed over each small sphere? Why or why not?	02	03	06



Surface	What it encloses
S_1	q_1
S_2	q_2
S_3	q_1 and q_2
S_4	q_1 and q_3
S_5	q_1 and q_2 and q_3

Figure 02

P.T.O

04 (b) For the system of capacitors shown in Fig. 03, a potential difference of 25 V is maintained across ab. (a) What is the equivalent capacitance of this system between a and b? (b) How much charge is stored by this system? (c) How much charge does the 6.5 nF capacitor store? 02 03

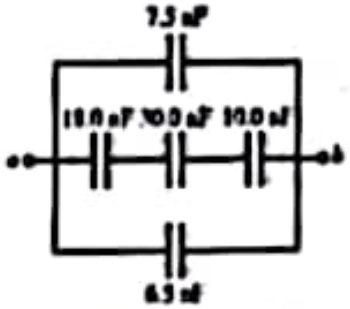


Figure 03

05 (a) Explain following laws with the help of mathematical expression. 01 02

I. Gauss's Law

II. Ohm's Law (with the curve formed between Current and Voltage)

05 (b) Discuss the impact of following factors on resistance: 01 02

I. Cross-sectional area of conducting wire

II. Length

III. Material

IV. Temperature

Subject Teacher: Engr. Mujeeb ur Rehm

QUAID-E-AWAM UNIVERSITY OF ENGINEERING, SCIENCE & TECHNOLOGY, NAWABSHAH

FINAL SEMESTER REGULAR EXAMINATION OF FIRST SEMESTER – FIRST YEAR, 2021 OF 20-BATCH, B.E (TC)

SUBJECT: INTRODUCTION TO TELECOMMUNICATION

Dated: 02.09.2021 Maximum Marks: 60 Time Allowed: 3 Hours.

NOTE: ATTEMPT ALL QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.

Q. No		CLO
01	Define amplifier, oscillator, superhetrodyne receiver, filter and mixer.	1
02	What are types of wave propagation? Explain tropospheric scatter and ionospheric communications.	2
03	Discuss the importance of modulation and differentiated between AM and FM.	2
04	What is OSI seven-layer model by ISO? Discuss physical layer, data link layer and network layer.	2
05	What do you mean by protocol? And Discuss HDLC protocol and overview of the ISDN.	2

Name of Subject Teacher: Engr. Sarfaraz Ahmed

---The End---

QUAID-E-AWAM UNIVERSITY OF ENGINEERING, SCIENCE & TECHNOLOGY, NAWABSHAH

FINAL SEMESTER REGULAR EXAMINATION OF FIRST SEMESTER – FIRST YEAR, 2021 OF 20 BATCH, B.E (TC)

SUBJECT: INTRODUCTION TO COMPUTERS

Dated: 27.08.2021 Maximum Marks: 30 Time Allowed: 02 Hours.

NOTE: ATTEMPT ALL QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.

Q. No		CLO	Taxonomy Level	Marks
1(a)	Define Cyber Security. Discuss the following cyber security threats: i- Phishing ii- Keylogger iii- Ransomware iv- Botnet	1	C1	05
1(b)	Answer the following questions, briefly: i- Why C Language is also called "middle-level language"? ii- What is the meaning of `#include` to the compiler? iii- Why every C program contains the `main()` function? iv- What is the difference between & and && operators? v- Declare a variable of character type and assign any character value to that variable.	1	C1	05
2(a)	Write a program that generates the following output: 10 20 19 Use an integer constant for the 10, an arithmetic assignment operator to generate the 20, and a decrement operator to generate the 19.	2	C2	03

2(b)	The marks obtained by a student in 5 different subjects are input through the keyboard. The student gets a division as per the following rules:
	`Percentage above or equal to 60 - First division`
	`Percentage between 50 and 59 - Second division`
	`Percentage between 40 and 49 - Third division`
	`Percentage less than 40 - Fail`
	Write a program to calculate the division obtained by the student.
		2	C2	07

3(a)	Write the output of the following C programs:
	Program - 1
	`int main()`
	`{`
	`int i = 4, z = 12;`
	`if ( i = 5 || z > 50 )`
	`printf ("if is true");`
	`else`
	`printf ("if is false");`
	`}`
	Program - 2
	`int main()`
	`{`
	`if( 10 > 9 )`
	`printf("QUEST");`
	`else if(4%2 == 0)`
	`printf("NSHAH ");`
	`}`
		2	C2	05

3(b)	Why do we use conditional control structure and repetitive control structure in C language? Write down the syntax of using if-else statement and for loop. Also, provide any programming example (of your own choice) that demonstrates the use of the if-else statement and for loop.	2	C1	05

—The End—

QUAID-E-AWAM UNIVERSITY OF ENGINEERING, SCIENCE & TECHNOLOGY, NAWABSHAH

FINAL SEMESTER REGULAR EXAMINATION OF FIRST SEMESTER – FIRST YEAR 2021 OF 20 BATCH,

B.E (ES / TC / ESE / EE / CH) / B.S (ENG)

SUBJECT: ISLAMIC STUDIES / ETHICS

Dated: 16.08.2021 Maximum Marks: 30 Time Allowed: 02 Hou

NOTE: ATTEMPT ALL QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.

ISLAMIC STUDIES

Q. 01 Describe the meaning of Revelation (Wahi), its types and write the compilation of Holy Quran, also describe Uloom-ul-Quran in detail.

Q. 02 Describe the importance of Tauheed and write all its types.

Q. 03 Describe the meaning of Hadith and write all its types.

ETHICS (FOR NON-MUSLIMS)

Q. 01 Write down the history of Hinduism and write its rituals and holy days.

Q. 02 Write in detail the history of Jesus Christ and write the teachings of Christianity.

Q. 03 Write short notes on the following topics:

1. Ethical values in Islam
2. Ten Commandments of Prophet Moses
3. Cast System in Hinduism

The End

QUAID-E-AWAM UNIVERSITY OF ENGINEERING, SCIENCE & TECHNOLOGY, NAWABSHAH

FINAL SEMESTER REGULAR EXAMINATION OF FIRST SEMESTER – FIRST YEAR 2021 OF 20-BATCH, B.E (TC / SE)

SUBJECT: APPLIED CALCULUS

Dated: 23.08.2021 Maximum Marks: 60 Time Allowed: 3 Hours.

NOTE: ATTEMPT ALL QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.

Q. No.	QUESTIONS	CLO	Taxonomy Level	Marks
01	(a) Write the precise mathematical definition of continuity. Also explain in your own words what it means for a function to be continues at a point. (b) Find the constants a and b such that f is defined $f(x) = \begin{cases} x^3 & \text{if } x < -1 \\ ax + b & \text{if } -1 \le x < 1 \\ x^2 & \text{if } x \ge 1 \end{cases}$ is continuous $\forall x$.	CLO-2	C2	12
02	A stone is dropped in a still lake causing circular ripples to spread over the surface, if the radius of the circle increases at the rate of 0.5m/s. how fast is the area of the ripples increasing when the radius of the ripples is 20 meters?	CLO-3	C2	12
03	Evaluate the following integrals. (i) $\int \frac{e^{\arctan x}}{1+x^2} dx$ (ii) $\int \sqrt{x}\, Cos\sqrt{x}\, dx$. (iii) $\int_{-2}^{2} \lvert x \rvert dx$	CLO-3	C2	12
04	(a) Define what it means for a function $f:(a,b) \to \mathbb{R}$ to be a differentiable. (b) The number of liters of water in a tank t minutes after the water starts draining out of the tank, is given by $f(t) = 200(30-t)^2$ i. What is the average rate at which the water flows out during the first 5 minutes? ii. How fast is the water running out at the end of 5 minutes?	CLO-2	C2	12
05	Find $\frac{dy}{dx}$ (i) If $f(x) = (Sinx)^{Cosx} + (Cosx)^{Sinx}$ (ii) $x = \frac{3at}{1+t^3}$, $y = \frac{3at^2}{1+t^3}$ (iii) $y = x^x$ (iv) $y = \sqrt{x\sqrt{x+\sqrt{x}}}$	CLO-2	C2	12

The End

QUAID-E-AWAM UNIVERSITY OF ENGINEERING, SCIENCE & TECHNOLOGY, NAWABSHAH

FINAL SEMESTER REGULAR EXAMINATION OF FIRST SEMESTER – FIRST YEAR 2021 OF 20-BATCH B.E (TC)

SUBJECT: FUNCTIONAL ENGLISH

Dated: 30.08.2021 **Maximum Marks: 60** **Time Allowed: 3 Hou**

NOTE: ATTEMPT ALL QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.

Q.		QUESTION	CLO	Taxonomy Level	M
Q. 01		Write a comprehensive Essay (1200-1500 words) on any ONE of the following topics. i. Effects of Unemployment ii. Global Warming iii. A life-changing Experience iv. The impact of COVID -19 on Pakistan's Economy	3	C1	
Q. 02		Make a precis of following passage and give it a suitable title. Everybody knows what a "good" man means and how he should be. Our definition of a good man is the one who does not smoke or drink or avoids the usage of bad language. A good man is ideally expected to converse in front of men as he would in front of women. He is also expected to attend the Church regularly and have correct opinions on all subjects. He has a wholesome horror of wrong-doing and realizes that it is our painful duty to reprimand sin. He is not anticipated to have wrong thinking and has the authority to protect the young. His duties are not just restricted to the professional front but also needs to spend quality time doing good deeds. He must be patriotic and a keen believer of military training, he should promote industry, must be sober and have virtue among wage earners and their children. He must be a role model for all and it is expected that he leads a way which the younger generation would willingly follow. Above all, of course, his "morals" in the narrow sense must be admirable.	3	C3	
Q. 03		Change the voice: i. She often appreciates her husband with her parents. ii. Does he know us? iii. Why did you call me yesterday? iv. Did you play cricket yesterday? v. Open the door. vi. Shoot these dacoits. vii. She must deliver the letters to the right person.	1	C3	
Q. 04		Insert the suitable articles in the following sentences. i. Please give me-------- red hammer. ii. She is ---------- United States senator. iii. I heard ---------- interesting story yesterday. iv. Why are you reading ----------my book? v. ------- Duck is------bird.	1	C3	
Q. 05		Correct the following sentences: i. I have seen him yesterday. ii. Neither of the boys have returned. iii. I have seen him a moment ago. iv. They discussed about the whole matter. v. He is sleeping for two hours.	1	C3	

The End