SUBJECT: PAKISTAN STUDIES

Dated: 14.10.2021   Maximum Marks: 10   Time Allowed: 45 Minutes.

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

Q. 01   Explain the role of Sir Sayed Ahmed Khan·and services for Muslims in sub-continent.

Q. 02   Describe the partition of Bengal 1905 and reasons for formation of AIML.

Q. 03   Who launched Khilafat Movement and why? How did Khilafat Movement end?

The End

SUBJECT: COMMUNICATION SKILLS

Dated: 11.10.2021   Maximum Marks: 10   Time Allowed: 45 Minutes.

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

Q. 01   Is communication a basic need? If not, then how much important it is, and why do we need to communicate?

Q. 02   The process of communication is a cycle. Prove the statement by discussing all the steps involved.

Q. 03   "If there is no listening, there will be no speaking", discuss. Elaborate all the tips to improve the listening skills.

The End

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

MID-SEMESTER EXAMINATION OF SECOND SEMESTER – FIRST YEAR (2ⁿᵈ SEMESTER) 20 BATCH

BE (SE/ES/TC)

SUBJECT: LINEAR ALGEBRA & ANALYTICAL GEOMETRY

Dated: 13.10.2021   Maximum Marks: 20   Time Allowed: 1 Hour.

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

Q. No.	QUESTIONS	PLO	CLO	Taxonomy Level	Marks
01	(a) Define the following Matrices (i) Nilpotent Matrix (ii) Idempotent Matrix (iii) Involuntary Matrix	PLO-2	CLO-1	C2	05
	(iv) Upper Triangular Matrix (b) Show that this is nilpotent Matrix $\begin{bmatrix} 1 & -3 & -4 \\ -1 & 3 & 4 \\ 1 & -3 & -4 \end{bmatrix}$	PLO-2	CLO-2	C3	05
02	(a) Define Homogeneous and Non-Homogeneous System of Linear Equation	PLO-2	CLO-1	C2	05
	(b) Solve the system by Gauss Elimination Method $x_1 + 5x_2 + 2x_3 = 9$ $x_1 + x_2 + 7x_3 = 6$ $-3x_2 + 4x_3 = -2$	PLO-2	CLO-2	C2	05
03	(a) Define the consistency criteria of Homogeneous and Non-Homogeneous System of Linear Equations	PLO-2	CLO-1	C2	05
	(b) Find the rank of the given Matrix $\begin{bmatrix} 2 & 1 & 3 & 5 \\ 15 & 8 & 1 & 12 \\ 11 & 5 & 8 & 6 \\ 12 & 8 & 7 & 10 \end{bmatrix}$	PLO-2	CLO-1	C3	05

The End

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

MID SEMESTER EXAMINATION 2021 OF SECOND SEMESTER FIRST YEAR (20-BATCH) OF B.E. (TELECOMMUNICATION ENGINEERING)
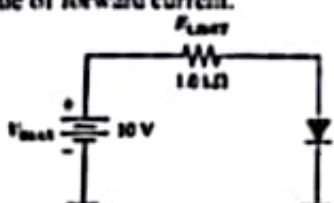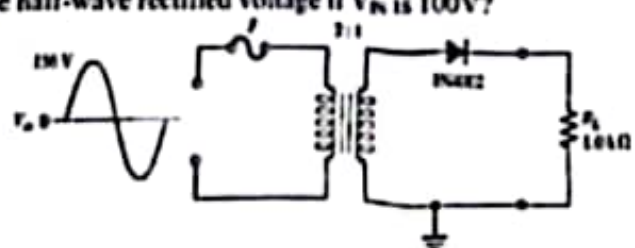
Subject: BASIC ELECTRONINCS

Dated: 11-10-2021   Time Allowed: 1 Hour   Max: Marks: 20

NOTE: ATTEMPT ANY TWO QUESTIONS.

Q. No		CLO	Taxonomy Level	Marks
01 (A)	Discuss Bohr's atomic model, energy band diagram, its importance and differentiate among atomic structure of semiconductor, insulator and conductor.	01	C2	05
(B)	Examine forward and reverse biasing of diode and draw its VI characteristic curve.	02	C4	05
02) (A)	Discuss conduction band, valance band, hole current, reverse breakdown, dynamic resistance and effect of temperature on semiconductors.	01	C2	05
(B)	Determine the forward voltage and forward current for the diode in the diagram for each of the diode models (ideal, practical and complete). Also find the voltage across the limiting resistor in each case. Assume $r_d = 20\ \Omega$ at the determined value of forward current.	02	C4	05
03 (A)	Determine the peak value of the output voltage of the following circuit. And what are the average value, PIV value, and rms value of the half-wave rectified voltage if V_{in} is 100V?	02	C4	05
(B)	Differentiate between pn-junction and zener diode.	01	C2	05

—The End—

SUBJECT: OBJECT ORIENTED PROGRAMMING

Dated: 15.10.2021   Maximum Marks: 20   Time Allowed: 1 Hour.

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

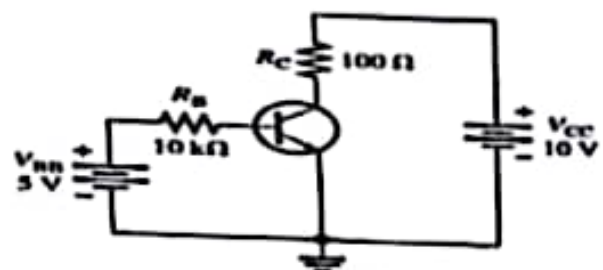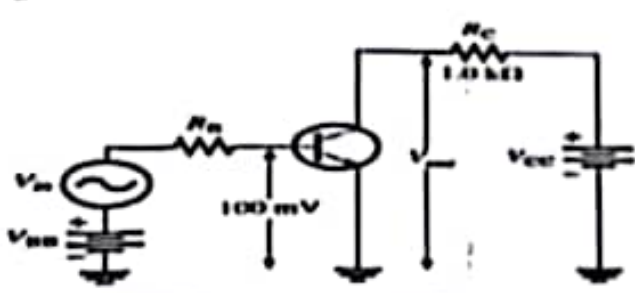| Q. No.		Question	Marks	CLO	Taxonomy Level
Q. 01	a)	Do as directed: i- Differentiate between break statement and exit(0) function. ii- Why the following declaration is not correct: `int array[][] = {2,4,3,6,8,5,9,7};` iii- Differentiate between the arrays and structures iv- Differentiate between the while and do-while loops	[04]	01	C1

	b)	i- Point out the errors and also re-write the corrected version of the program:
		 `main( )`
		 `{`
		 `int num = 1 ;`
		 `    switch (num);`
		 `    case 0 ;`
		 `    cout<<"QUEST";`
		 `    case 1 ;`
		 `    cout<<"Nawabshah";`
		 `}`
		
		 ii- What will be the output of the following program:
		 `main( )`
		 `{`
		 `int x = 4, y = 0, z ;`
		 `    while(x >= 0)`
		 `    {`
		 `        if(x == y)`
		 `        break ;`
		 `        else`
		 `        cout<<"x=, y="<<x<<y;`
		 `        x-- ;`
		 `        y++ ;`
		 `    }`
		 `}`
			[06]	01	C1

Q. 02	a)	Write a program that asks a user to enter 10 numbers into an array. Then ask a user to enter another number to search. If the number entered by the user is contained in an array, the program should display the message "Number found", otherwise display the message "Number not found".	[06]	01	C2
	b)	Provide suitable examples for 1-D array and structure declarations. How 1-D arrays and structures are accessed in the main program?	[04]	01	C2
Q. 03	a)	Write a program that declares a structure called Student. The student structure contains the member elements such as name, roll number, percentage, and date of birth. Furthermore, declare nested structures for date of birth (dd, mm, yy) and name (F_name, M_name, L_name) elements. In the main program declare an array of structure that may store data for 50 students. Ask the user to enter student's data at run-time and then also display it on the screen.	[07]	01	C2
	b)	How 2D arrays are declared and initialized. Support your answer by providing a suitable example.	[03]	01	C1

The End

Dated: 06.12.2021   Maximum Marks: 60   Time Allowed: 3 Hours.

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

Q. No		CLO	Taxonomy Level	Marks
01 (A)	Draw circuit diagram of full wave bridge and full wave center tapped rectifier and differentiate each other. Also discuss the advantages and disadvantages of both rectifiers.	1	C2, C4	05
(B)	Determine I_B, I_C, I_E, V_{BE}, V_{CE} and V_{CB} in the following circuit where the transistor has a $\beta_{DC} = 200$ and what do you mean by phase reversal in CE amplifier?	02	C3	05
02 (A)	Define BJT and its working principal. And What is cutoff and saturation state of bipolar junction transistor? And Identify it with respect of DC load line and also argues the importance of DC load line.	02	C1	05
(B)	Determine the voltage gain and the ac output voltage if $r_e = 50\Omega$ for the given circuit.	02	C3	05
03(A)	Discuss any five types of special purpose diodes with its applications and VI characteristic curves and also state applications of clipper and clamper.	01	C1, C2	05
(B)	Differentiate among BJT common emitter, common base and Common collector. And why voltage divider biasing is mostly used other than other biasing methods?	02	C4	05

Dated: 09.12.2021   Maximum Marks: 60   Time Allowed: 3 Hours.

NOTE: ATTEMPT ALL QUESTIONS.

Q. No		CLO	Taxonomy Level	Marks
01(a)	Balance the chemical equation using linear system $$C_2H_6 + O_2 \rightarrow CO_2 + H_2O$$	3	C3	08
01(b)	Find the rank of the matrix $$A = \begin{bmatrix} 2 & 3 & 4 \\ 3 & 1 & 2 \\ -1 & 2 & 2 \end{bmatrix}$$ by determinant method	1	C1	04
02(a)	Find the equation of the plane that passes through the points $A(1,-1,2)$, $B(-3,-2,-6)$ & $C(5,-8,-2)$	1	C1	10
02(b)	Show that the lines are parallel $$L: \frac{x+3}{2} = \frac{y-4}{-3} = \frac{z+1}{4} \quad M: \frac{x-1}{-4} = \frac{y+2}{6} = \frac{z-3}{-8}$$	1	C1	02
03(a)	Find the ratio in which the xy-plane divides the segment joining the points A $(3,1,5)$ and B $(1,-1,3)$	3	C3	04
03(b)	Find the parametric equations for the straight line passes through the point and parallel to the given vector. A $(2,-1,0)$; $\vec{b} = [4,3-2]$	2	C2	08
04(a)	Convert the equation of plane $2x - 3y - z + 11 = 0$ (i) Intercept form (ii) Normal form	2	C2	04
04(b)	Why we use coordinate system, hence locate the position of the point $P(3,4,5)$	1	C1	02
04(c)	Let $P(x_1,y_1,z_1)$ and $Q(x_2,y_2,z_2)$ are the opposite vertices of a parallelepiped, find the coordinates of the other vertices and sketch the parallelepiped	1	C1	06
05	Evaluate the following integrals (any two) (i) $\int e^x \sin x\, dx$ (ii) $\int \cos^{-1} x\, dx$ (iii) $\int x^3 \ln x\, dx$	2	C2	12

—The End—

Dated: 16.12.2021　　　　　Maximum Marks: 60　　　　　Time Allowed: 3 Hours.

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

Q. No		CLO	Taxonomy Level	Marks
1	Define the following terms: i. Public and Private access specifiers ii. Constructor iii. New operator iv. Function overloading	3	C3	12
2 (a)	Write a class declaration that creates a class called DATA with one private data member, **num**, of type **int**, one constructor that initialize the data member to 0 and two public member functions, **void getdata()** that ask user to enter value of num and **void show()** that display the value of num.	3	C3	06
2 (b)	Suppose you have given the following array: int array[] = {11, 22, 33, 44, 55}; Using the **pointer notation** display the elements of the array on the screen.	3	C1	06
3 (a)	Write a C++ program to define a class Box with data members as length, width and height, and the member functions as void setdata(int, int, int) that assign values to data members and int area() which computes area and returns it to calling program. In the main program create three dynamic objects at run-time and call setdata() and area() functions to perform the task accordingly.	3	C1	08
3 (b)	Write a function called swap that takes two integer type variables as arguments. The swap function should interchange the values passed to it. Create a main program to exercise this function.	3	C1	04
4	Define the concept of overloading? Why there is need of operator overloading in C++. Write any C++ program, using concept of operator overloading, that overloads +, < and > operators.	3	C1	12
5	By providing suitable programming examples, discuss the following: i. Class and Object　ii. Pointers　iii. Arrow operator iv. Scope resolution operator	3	C1	12

Good Luck

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

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

B.E (EL / CS / SE / TC)

SUBJECT: PAKISTAN STUDIES

Dated: 13.12.2021   Maximum Marks: 30   Time Allowed: 02 Hours.

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

Q. 01   Write short notes on the following:
1. Lahore Resolution 1940
2. Objective Resolution 1949

Q. 02   Why was Pakistan split into two parts in 1971? Explain reasons.

Q. 03   Why Constitution is necessary for a country? Write the silent features of Pakistan Constitution 1956.

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

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

SUBJECT: COMMUNICATION SKILLS

Dated: 03.12.2021   Maximum Marks: 30   Time Allowed: 02 Hours,

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

Q. 01   "Readers are leaders" discuss the statement and elaborate all the types of reading.

SUBJECT: COMMUNICATION SKILLS

Dated: 03.12.2021   Maximum Marks: 30   Time Allowed: 02 Hours.

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

Q. 01   "Readers are leaders" discuss the statement and elaborate all the types of reading.

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

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

B.E (EL / C9 / SE / TC)

SUBJECT: PAKISTAN STUDIES

Dated: 13.12.2021   Maximum Marks: 30   Time Allowed: 02 Hours.

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

Q. 01   Write short notes on the following:
1. Lahore Resolution 1940
2. Objective Resolution 1949

Q. 02   Why was Pakistan split into two parts in 1971? Explain reasons.

Q. 03   Why Constitution is necessary for a country? Write the silent features of Pakistan Constitution 1956.

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

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

SUBJECT: COMMUNICATION SKILLS

Dated: 03.12.2021   Maximum Marks: 30   Time Allowed: 02 Hours.

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

Q. 01   "Readers are leaders" discuss the statement and elaborate all the types of reading.

Q. 02   How does Non Verbal Communication help you become more expressive? Discuss Posture, Gesture and Silence.

Q. 03   Interview is the fortune decider for an individual, discuss in detail the tips that can help.