



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

MID-SEMESTER EXAMINATION OF FIRST SEMESTER – FIRST YEAR (1ST) 2023, 22-BATCH, B.S (CS)

SUBJECT: PROGRAMMING FUNDAMENTALS

Dated: 15.02.2023

Maximum Marks: 20

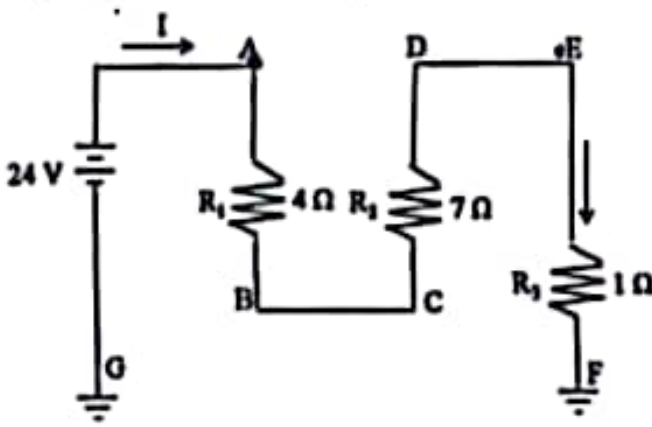
Time Allowed: 1 Hour,

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

Q. No.	Question	CLO	Taxonomy Level	PLO	Mark
Q. 01	(a) What is loop in C Programming Language? Describe the structure of FOR, WHILE and DO-WHILE loops?	1	C2	1	05
	(b) Write a program to generate a mathematical table of a scanned number.	1	C5	2	05
Q. 02	(a) Define one dimensional array? How to declare, initialize and accessing an array?	1	C1	1	05
	(b) Write a program to calculate the average of five numbers entered in the array.	1	C5	2	05

The End

**QUAID-E-AWAM UNIVERSITY OF ENGINEERING, SCIENCE & TECHNOLOGY, NAWABSHAH****MID-SEMESTER EXAMINATION OF FIRST SEMESTER – FIRST YEAR (1ST) 2023, 22-BATCH, B.S (CS)****SUBJECT: APPLIED PHYSICS****Dated: 16.02.2023****Maximum Marks: 20****Time Allowed: 01 Hour,****NOTE: ATTEMPT ALL QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.**

Q. No.	Questions	CLO	Taxonomy Level	PLO	Marks
Q. 01 (a)	Explain Ohm's law.	1	C2	8	05
(b)	<p>In figure shown. Determine:</p> <p>(i) Total circuit resistance $R_T = 12 \Omega$</p> <p>(ii) Circuit current $I = \frac{V}{R}$</p> <p>(iii) Potential difference between A to E $V = 1V$</p> <p>(iv) Potential of point E $V = 1V$</p> <p>(v) Power supplied by the battery $P = VI$</p> 	1	C2	8	05
Q. 02 (a)	Differentiate between linear resistor and non-linear resistor.	1	C2	8	05
(b)	<p>Describe the following:</p> <p>(i) Cells in series and parallel connection</p> <p>(ii) Zero reference level</p> <p>(iii) Series resistor circuit</p>	1	C2	8	05

The End

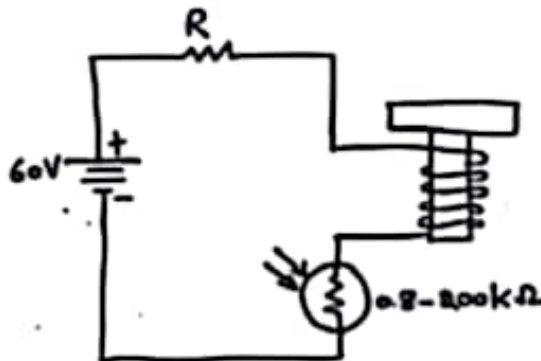
Q. No	QUESTION	CLO	Taxonomy Level	PLO	M
01	(A) What is communication? Draw the general model of communication. Also, discuss the types of communication.	1	C1	1	
	(B) Describe the basic task of computer. Briefly discuss data and information. Also, draw the data/information processing cycle.	1	C2	1	
02	Perform conversion of the following numbers. 1. $(1024)_{10} = (?)_2$ 2. $(101001110)_2 = (?)_8$ 3. $(112233)_8 = (?)_{16}$ 4. $(AFD01)_{16} = (?)_{10}$ 5. $(1001110)_2 = (?)_{10}$	1	C3	1	

**QUAID-E-AWAM UNIVERSITY OF ENGINEERING, SCIENCE & TECHNOLOGY, NAWABSHAH****FINAL SEMESTER REGULAR EXAMINATION OF FIRST SEMESTER – FIRST YEAR, 2023 OF 22-BATCH, B.S (CS)****SUBJECT: INTRODUCTION TO ICT****Dated: 22.05.2023****Maximum Marks: 30****Time Allowed: 02 Hours.****NOTE: ATTEMPT ALL QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.**

Q. No		QUESTION	CLO	Taxonomy Level	PLO	Marks
Q. 01	(A)	What is computer memory? Discuss various types of computer memory commonly found in modern systems?	1	C1	1	05
	(B)	What are the units of memory measurement? Describe various units of memory measurement in detail with examples.	1	C1	1	05
Q. 02	(A)	What are the different types of computer viruses commonly encountered?	2	C1	1	05
		What is the main difference between a worm and a Trojan horse in the context of computer viruses?	2	C1	1	05
Q. 03	(A)	What are the key components of a computer-based information system?	3	C1	1	05
	(B)	How do CBIS improve organizational efficiency and decision-making processes?	3	C1	1	05

***** Good Luck *****



Q. No.	Questions	CLO	Taxonomy Level	PLO	Marks
Q. 01	(a) What is a dc power supply? Draw the neat block diagram of unregulated dc power supply and define the function of the each block.	1	C2	8	06
	(b) List the disadvantages of unregulated dc power supply. Draw the neat block diagram of regulated dc power supply and describe the function of the each block.	1	C2	8	06
Q. 02	What is a phototransistor? Explain with the help of neat diagram the working and construction of a phototransistor Also list the applications of the phototransistor.	1	C2	8	12
Q. 03	List the applications of a photoconductive cell. A relay is controlled by a light dependent resistor (LDR) which has a resistance of 800Ω when illuminated with 600 lm/m^2 and $200 \text{ K}\Omega$ when in the dark. The relay is supplied with 40 mA from a 60 V battery when LDR is illuminated and is required to be de-energized when LDR is in the dark. The circuit is shown in figure. Determine the required series resistance and the value of the dark current. 	1	C2	8	12
Q.04	Define bipolar junction transistor. Explain with the help of neat diagram the working of PNP transistor.	1	C2	8	12
Q.05	(a) Differentiate between the primary cell and the secondary cell.	1	C2	8	06
	(b) How much charge and energy stored in a $10 \mu\text{F}$ capacitor connected across a 400 V supply?	1	C2	8	06

**SUBJECT: ENGLISH COMPOSITION AND COMPREHENSION****Dated: 18.05.2023****Maximum Marks: 60****Time Allowed: 3 Hours****NOTE: ATTEMPT ALL QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS.**

Q. No.	QUESTION	CLO	Taxonomy Level	PLO	Mark
Q. 01	Define and explain the structural characteristics of Paragraph and Essay. Substantiate your answer with suitable examples	1	C1	1	1
Q. 02	Identify and explain the uses of any four clause types. Provide relevant examples wherever necessary.	1	C2	1	1
Q. 03	Enlist and explain the types of Participle. Write at least five sentences to show the difference between such participle types.	2	C2	1	1
Q. 04	Explain the relations expressed by prepositions? Substantiate your answer with suitable examples.	3	C1	7	1
Q. 05	Identify the underlined phrase types used in the following sentences. Use grammatical reasoning in support of your answer: a. One should avoid driving the car <u>at a high speed</u> . b. He speaks <u>in a loud voice</u> when he is angry. c. Mr. Tom often wears <u>a big warm coat</u> in winter. d. <u>The old dilapidated house</u> was haunted. e. <u>He was a famous actor once upon a time</u> . f. <u>The sky was covered with dark thick clouds</u> .	3	C3	7	1

Good Luck



Q.No.	QUESTION	CLOs	Taxonomy Level	PLOs	Ma
Q. 01	Define Complex number, Modulus and Conjugate of Complex number? and find the real and imaginary parts of: I. $\frac{1}{6-3i}$ ii. $(\sqrt{2}-3i)^3$ iii. $\frac{2\sqrt{2}-i}{2\sqrt{2}+i}$	2	C1	3	1
Q. 02	State De Moivre's theorem and suppose $z = \cos \theta + i \sin \theta$. If n is an integer, evaluate $z^n + z^{-n}$ and $z^n - z^{-n}$?	2	C2	3	1
Q. 03	(a) Discuss Arithmetic Mean (A.M) and Geometric Mean (G.M) between a and b and Find: I. 4 A.M's between $(a-b)$ and $(9a+11b)$. II. 5 G.M's between 3 and 192.	2	C6	3	0
	(b) Show that $2^{\frac{1}{2}} \cdot 4^{\frac{1}{4}} \cdot 8^{\frac{1}{8}} \cdot 16^{\frac{1}{16}} \dots = 2$.	2	C2	3	0
Q. 04	(a) Discuss permutation and combination with examples? In how many ways can a number be chosen from 1 to 22 such that: I. It is a multiple of 3 or 8? II. It is a multiple of 2 or 3? III. It is a multiple of 2 and 4?	3	C6	3	0
	(b) Define Experiment, Event, Sample space and Probability of an event? There are 15 balls numbered 1 to 15 in a bag. If a person select one at random, what is the probability that number printed on the ball be a prime number greater than 5?	3	C1	3	0
Q. 05	(a) State the principle of mathematical Induction and by mathematical Induction, prove that the following formula is true for all positive Integral values of n . $2 + 4 + 6 + \dots + 2n = n(n+1)$	3	C2	3	0
	(b) Find the sum of the following series. I. $1^2 + 2^2 + 3^2 + \dots + 50^2$. II. $16^3 + 17^3 + 18^3 + \dots + 25^3$.	3	C1	3	0



SUBJECT: PRE-CALCULUS-I

Dated: 05.05.2023

Maximum Marks: 60

Time Allowed: 3 Hours.

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

Q. No.	QUESTION	CLO	Taxonomy Level	PLO	Marks
Q. 01	(a) Explain the terms function and domain of function in detail.	1	C1	1	06
	(b) Draw the graphs of the following functions: I. $f(x) = x $ II. $f(x) = [x]$ III. $f(x) = x^2 + 1; x = 0(1)4$	2	C2	2	06
Q. 02	(a) Define derivative of a function at a point. Find derivative $f(x) = x^3$ and $\cos x$ by first principle.	2	C2	2	06
	(b) Define the all types of domain of function.	2	C2	2	06
Q. 03	(a) What geometrical meaning of derivative and limit of a function?	1	C1	1	06
	(b) Evaluate the limits: I. $\lim_{x \rightarrow \pi/2} \frac{\cos x + 1}{\sin x}$ II. $\lim_{x \rightarrow 0} \frac{e^x \cos x}{x^2 + x + 1}$	2	C2	2	06
Q. 04	(a) What is geometrical meaning of definite Integrals?	3	C3	3	06
	(b) Evaluate the following: I. $\int (x^3 + x + 1) dx$ II. $\int (\cos x + \sin x + e^x - e^{-x}) dx$	2	C2	2	06
Q. 05	(a) Differentiate between odd and even functions.	1	C1	1	06
	(b) Prove that $f(x) = x^2$ is even function with the help of graph and $f(x) = x$ is odd function.	1	C1	1	06

Good Luck

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

Q. No.	QUESTION	CLO	Taxonomy Level	PLO	Marks
Q. 01	(a) Create a program in C programming language for scanning two strings ("QUEST" and "NAWABSHAH") then join and print them?	2	C3	2	04
	(b) Create a program in C programming language to copy one string to another string?	2	C3	2	04
	(c) Create a program in C programming language to find the length of a string without using library functions?	2	C3	2	04
Q. 02	(a) What are pointers, and what are they used for? How do you use pointers in C programming language?	2	C1	1	06
	(b) Create a program for calculating average of two numbers using pointers in C programming language?	2	C3	2	06
Q. 03	(a) Define Structure and their uses?	2	C1	1	06
	(b) Create a program that declares a structure consisting of three different data types with two variables, assigns values to them, and print the values of both variables?	2	C3	2	06
Q. 04	(a) Write a brief explanation of the various operations that can be performed on a file?	2	C2	1	06
	(b) Create a program for appending your name and rollno into the text file and reading them in C programming language?	2	C3	2	06
Q. 05	(a) Create a program in Python for printing your name 10 times using while loop?	2	C3	2	04
	(b) Create a program in Python for calculating the percentage?	2	C3	2	04
	(c) Create a program in Python for comparing the two numbers and print large one?	2	C3	2	04

Good Luck