AR20

CODE: 20ESI102 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

I B.Tech II Semester Regular Examinations, October-2021

PROGRAMMING FOR PROBLEM SOLVING

(Common to CE, EEE & ECE)

Time: 3 Hours **Max Marks: 60**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the Question must be answered at one place

UNIT-I

1.	a)	With a neat diagram explain the basic structure of a computer.	5M
	b)	Design a Flow Chart and Algorithm to find the greatest number among three numbers.	5M
		(OR)	
2.	a)	What is a token? What are different types of token available in C language? Explain	5M
	b)	Explain with examples basic input output statements in C.	5M

UNIT-II

3.	a)	Compare the use of switch statements with the use of nested if statements. Which is more convenient?	5M
	b)	Design and develop a C Program to generate prime number between two given numbers.	5M
		(OR)	
4.	a)	Demonstrate the use of contiue statement in c program.	5M
	b)	Implement C Program to find the reverse of a given integer.	5M

UNIT-III

5.	a)	Write a program to add two matrices of dimension 2*2 and store the result in another matrix.	5M
	b)	Define pointer. How to declare and initialize pointers? Narrate any two advantages of pointer.	5M
		(OR)	
6.	a)	What is a string? How to declare and initialize a string? Explain the use of strcpy(), strcat() function.	5M
	b)	Write a program to find largest and smallest from a list of elements.	5M

UNIT-IV

7.	a)	Illustrate formal parameters and actual parameters with proper examples.	5M
	b)	Explain the differences between user defined and library functions.	5M
		(OR)	
8.	a)	Explain the function definition, function declaration and function call with syntax and a suitable example?	5M
	b)	What are the types of storage classes in C? Mention the scope and lifetime them?	5M

UNIT-V

9.	a)	Define structure and union. List out differences between them.	5M
	b)	Write a C Program for pointer to structure with an example.	5M
		(OR)	
10.	a)	What is meant by structure data type? How do we reference the elements of a structure? Give example of how a value of a structure can be assigned to another structure.	7M
	b)	Create a structure with an array as one of its member.	3M

UNIT-VI

11.		Explain following file operations along with syntax and examples: i) fopen() ii) fclose() iii) fseek() iv) ftell() v) fgets()	10M
		(OR)	
12.	a)	What are preprocessor directions? Why do we need them? Explain various preprocessor directives.	6M
	b)	How to create a file in C? Why should a user close the file?	4M

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CODE: 20EST101 **SET-2**

ADITYA INSTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI

(AUTONOMOUS)

I B.Tech II Semester Regular Examinations, October- 2021

BASIC ELECTRICAL ENGINEERING

(Common to ME, CSE & IT)

Time: 3 Hours **Max Marks: 60**

Answer ONE Question from each Unit

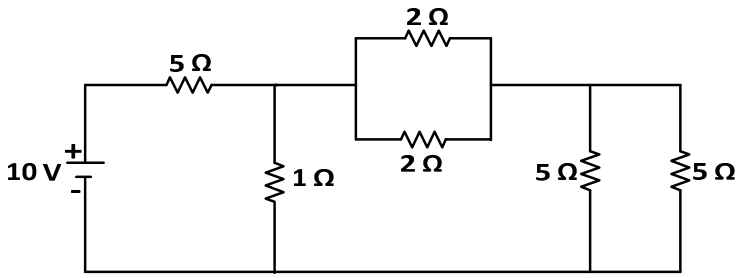
All Questions Carry Equal Marks

All parts of the Question must be answered at one place

UNIT-I

1. a) Define i) resistance ii) inductance iii) capacitance 3M

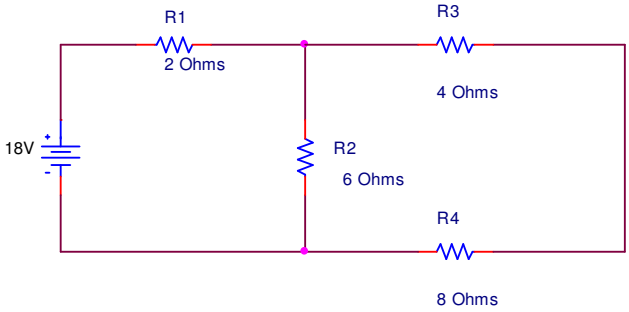
   b) Use series and parallel reduction technique and find the Power delivered by the source . 7M



(OR)

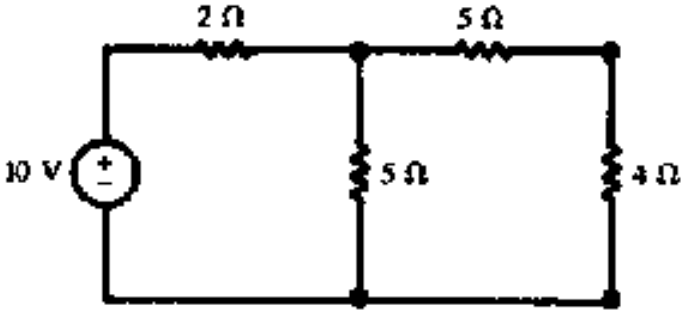
2. a) State and explain Kirchhoff's laws 5M

   b) Find the current in the various branches of the circuit 5M

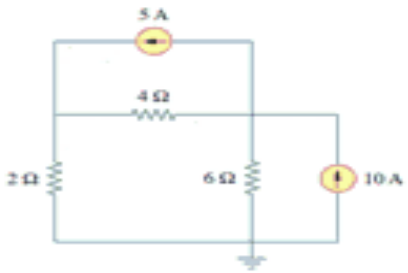


UNIT-II

3. a) Use mesh analysis to find the current through 4 ohms resistor. 4M



b) Calculate Node Voltages in following circuit 6M



(OR)

4 Explain the delta-star and star-delta transformation. 10M

UNIT-III

5. a) A signal generator supplies a 30V 100Hz signal to a series circuit with R = 40 ohms, L = 70mH. Determine the impedance, line current and phase angle. 5M

b) Derive the expression for average and RMS value for a sine wave. 5M

(OR)

6. a) Draw the phasor diagram of a series RL circuit supplied by an AC source and derive the expression for instantaneous power. 5M

b) Define the following i) RMS value, ii) Average value 5M

UNIT-IV

7. a) If two coils of inductance 70 mH and 30 mH are connected in series, then find the total cumulative inductance of the series connected inductors. Consider the mutual inductance of the combination of the two coils is 40 mH. 4M

b) Derive the Expression for coefficent of coupling k in magnetic circuits. 6M

(OR)

8. a) Compare electrical and magnetic circuits. 6M

b) Define the following i) reluctance ii) magneto motive force iii) magnetic field intensity 4M

UNIT-V

9. a) Explain the OCC of a dc generator. 6M

b) Explain about various applications of DC generators 4M

(OR)

10. a) Derive the EMF equation of A DC generator 5M

b) Explain the principle operation of DC Generator. 5M

UNIT-VI

11. Explain the working of 3-point starter with a neat sketch. 10M

(OR)

12. a) Explain the speed control methods of a DC shunt motor 6M

b) Explain the principle of torque production in a dc motor with the help of equation 4M