Seat No.:	Enrolment No.

## GUJARAT TECHNOLOGICAL UNIVERSITY MCA INTEGRATED- SEMESTER-II • EXAMINATION – SUMMER 2017

	•	Code: 4420602 Date: 02/06/20	17
Tir	•	Name: Advanced C Programming (Adv – C) 0:30 A.M. to 1:00 P.M. Total Marks:	70
	2.	Attempt all questions.  Make suitable assumptions wherever necessary.  Figures to the right indicate full marks.	
Q.1	(a)	Answer the following:  i. Explain fseek () and ftell () functions.  ii. Differentiate between int (*p) () and int (*p)[3].	03 04
	<b>(b)</b>	Explain any four functions used for writing in the file.	07
Q.2	(a)	Create a structure having data member customer name, address and mobile no. Write a program to display details of all customers in ascending order of	07
	<b>(b)</b>	customer name.  Differentiate between function and macro. Create a macro and function for swapping two numbers and explain the difference among them.  OR	07
	<b>(b)</b>	Explain dynamic memory allocation and static memory allocation in detail.	07
Q.3	(a)	Write an algorithm to perform push, pop and peep operation on stack of an integer.	07
	<b>(b)</b>	Write down array and linked representation of Tree with the help of suitable example.	07
Q.3	(a)	<b>OR</b> Write down the various operations and applications of a queue.	07
Ų.J	( <b>a</b> ) ( <b>b</b> )	Explain pre order, in order and post order traversal of binary tree with the help of suitable example.	07
Q.4	(a)	Write Short note on following  1. In degree and out degree  2. Height and depth of tree  3. Directed and undirected Graph	02 03 02
	<b>(b)</b>	Write a program to perform following operations on singly linked list i. Add node at end of list ii. insert node after any node	04 03
		OR	
Q.4	(a)	Differentiate between array and linked list. Write down the various applications of linked list in brief.	07
	<b>(b)</b>	Write short note on command line arguments and bit field.	07
Q.5	(a)	Differentiate between i. Structure and union ii. Stack and Heap memory area	04 03
		ii. Such and Heap memory area	U.J
	<b>(b)</b>	Write a program to print number of character and number of lines of a given file.	07

Q.5 (a) Write down the output of following code snippet void main() (i) 03 int a[]= $\{1,2,3,4,5\}$ ; int \*p=a,\*q=a[4],i=0,j=4; printf("%d %d",i[q]-p[j]); (ii) #define swap(a,b) t=a;a=b;b=t; 04 void main() { static int a=10,b=20,t; if(a>b) swap(a,b); printf("%d, %d, %d",a,b,t); } Write short note on following: **(b)** pointer to pointer 03 i. ii. # and ## operator 04

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