

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE (SPFU) - SEMESTER-I-II (SPFU) - EXAMINATION – SUMMER 2017****Subject Code: CPU002****Date: 01/06/2017****Subject Name: COMPUTER PROGRAMMING AND UTILIZATION-2****Time: 02:30 PM to 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Describe variable declaration in structure and accessing members of structure. **07**  
(b) Write a c program to check the string is Palindrome using function. **07**
- Q.2** (a) What is Recursion? Write a C program to find factorial using recursive function **07**  
(b) What is Dynamic Memory Allocation? Explain memory allocation functions briefly. **07**
- Q.3** (a) What is structure and union? Explain them in brief. **07**  
(b) Write a function using a pointer parameter that reverse the elements of a given array and call that function in main. **07**
- Q.4** (a) How to initialize Pointer? Explain arrays of Pointer using suitable example. **07**  
(b) Write a program to read a string from file and print on screen. **07**
- Q.5** (a) Design a structure student\_record to contain name, branch and total marks obtained. Develop a program to read data for 10 students in a class and print them. **07**  
(b) Write a function exchange to interchange the value of two variables. **07**
- Q.6** (a) Write a function program to find out average of first n numbers, where n is entered through keyboard. **07**  
(b) Explain different file management functions in C shortly. **07**
- Q.7** (a) Define a structure data type called time\_struct containing three members integer hour, integer minute and integer second. Develop a program that would assign values to the individual members and display the time in the following form: 18:37:40 **07**  
(b) Explain use of macros and preprocessing elements in C programming with examples. **07**

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