

Enrolment No:

**KADI SARVA VISHWAVIDYALAYA**  
**LDRP INSTITUTE OF TECHNOLOGY AND RESEARCH, GANDHINAGAR**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION**  
**B.E. 5<sup>th</sup> SEMESTER**  
**MID SEMESTER EXAMINATION AUGUST-2014**

Subject Code: EC-502

Subject Name: Microcontroller & Interfacing

Date: 25/08/2014

Branch: EC

Total Marks: 30

Time: 08.30 AM to 10.00 AM

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**Instructions:** - All questions are compulsory.  
- Figures to the right indicate full marks.  
- Make suitable assumption, wherever necessary.

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**Que. 1** Define Microcontroller & Explain the Features of 8051 microcontroller. (06)

**Que. 2** Answer the following questions.

- A) What is Flag Register? Explain Flag Register with suitable Example. (04)
- B) What is Subroutine? Explain CALL and RET instruction with suitable example. (04)
- C) Explain the Following Pins of 8051 microcontroller.(Any **Four**) (04)
  - 1) ALE      2) EA      3) PSEN      4) RST      5) XLAT1 & XLAT2

**OR**

- A) Describe TCON & TMOD Special Function Register. (04)
- B) Draw & Explain Internal RAM organization of 8051 microcontroller. (04)
- C) Explain the Following Instruction of 8051 microcontroller.(Any **Four**) (04)
  - 1) MOVC A,@A+DPTR      2) JNB P1.0, LABLE      3) ADD A,35H
  - 4) DIV AB      5) SETB TR1      6) PUSH 02H

**Que. 3** Answer the following questions.

- A) What is addressing modes? Explain example which use register, direct & indirect addressing modes. (06)
- B) Write a Program to Generate 10kHz Square wave on pin P2.3. Assume crystal frequency is 11.0592 Mhz. Use timers 1, Mode 1. (04)
- C) Explain any two Bit jumps Instruction using suitable example (02)

**OR**

- A) The word "LDRP" is to be burned in the Flash ROM location starting from 0400H. Write a Program to do this and to read this data into internal RAM location starting From 60H and Port 1. (06)
- B) Write an assembly Language program to transfer message "EC IS BEST" Serially using 4800 baud rate using serial mode 1. (04)
- C) Explain any two assembler directives of 8051 microcontroller. (02)

**\*\*\*\*\* All The Best\*\*\*\*\***