

**COLLEGE OF ENGINEERING, SCIENCE AND TECHNOLOGY
SCHOOL OF ELECTRICAL AND ELECTRONICS ENGINEERING**

CERTIFICATE IV IN BIOMEDICAL TECHNOLOGY

EEE462 MICROCONTROLLER APPLICATIONS

FINAL EXAMINATION (TRIMESTER 3, 2015)

DATE/TIME/ROOM – Refer to Timetable

(Max Marks – 100 Duration 3 Hours)

INSTRUCTIONS TO CANDIDATES

1. You are allowed 10 minutes extra time during which you are not to write.
2. Begin each answer on a fresh new page and use both sides of the sheets.
3. Write your identification number on the top of each attached sheet.
4. Insert all written foolscaps, graph paper, drawing paper etc. in their correct sequence and secure with string provided.
5. For all sheets of paper in which rough work has been done, cross it through and you must attach to your answer script.
6. Write clearly the number(s) of the question(s) attempted on the top of each sheet.
7. *ANSWER ALL QUESTIONS.*

Total no of pages – 3 (including cover page)

Question 1 Attempt any Four Questions

12 Marks

- a) Discuss the advantages of microcontrollers over microprocessors in control applications?
- b) Discuss the criteria for selecting a microcontroller device.
- c) What are SFR?
- d) Why micro controllers are not called general purpose devices?
- e) What are interrupts? Specify vector location of interrupts in 8051.

Question 2 Attempt any Three

18 Marks

- a) Write a 8051 program to count the number of 1's & 0's in a number.
- b) Write a 8051 program to add two 16 bit numbers.
- c) Describe the Stack operation with example.
- d) Explain the basic difference between Microprocessor and microcontroller.

Question 3

Explain all the registers used in 8051 microcontroller in brief.

10 Marks

Question 4

Draw the pin diagram of 8051 microcontroller.

10 Marks

Question 5

Explain with programming Blinking 1 LED using 8051.

8 Marks

Question 6 Attempt any three

24 Marks

- a) Explain serial communication.

Show a few examples of serial communication connections used in practice.

- b) Describe the features of parallel communication.
c) Explain LED display interfacing with Microcontroller.
d) What are all addressing modes of 8051? Explain in brief.

Question 7 Attempt Any Two

8 Marks

- a) Explain any one application of Microcontroller in biomedical applications.
b) Write the 8051 program for Binary to BCD conversion.
c) Explain the pin out Configuration of PIC 16F877.

Question 8

Explain the programming and implementation of Traffic light controller using microcontroller.

10 Marks

[THE END]

EQP RECEIPT CHECKLIST FORM

Particulars	Details/Comments (To be filled by Unit Lecturer)	Tick if present on EQP (To be filled by exams staff)
Cover Page		
Fiji National University with Logo	✓	
College	✓	
School	✓	
Program	✓	
Unit Code	✓	
Unit Name	✓	
Examination Period	As per T.T	
Duration of Examination	21	
Instructions	✓	
Total Number of Pages	0 ✓	
Other Pages		
Footer		
Page Number	✓	
Unit Code	✓	
Examination Period	✓	
Last Page		
The End	✓	
Overall		
Proper Print	✓	
Examination Requirements (FNU/E-1)	✓	
Moderator's Report (FNU/E-3)	✓	
ERRS (Class List)	✓	
Unit Coordinator/Principal Lecturer's Name	Dr. Sachin Sharma	

DISPATCHED BY (SCHOOL REP)

 NAME: WILEM

 SIGN: 

 DATE: 6/11/15

RECEIVED BY (EXAMS REP)

NAME: _____

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