PEC UNIVERSITY OF TECHNOLOGY, CHANDIGARH

MID TERM EXAM (SEPTEMBER 2016)

PROGRAMME: BTECH (ECE)

COURSE NAME: INTRODUCTION TO ELECTRONICS
AND COMMUNICATION ENGG.

MAX MARKS:30

YEAR/SEM: 1st SEMESTER

COURSE CODE: ECN101

TIME: 1:30 HRS

NOTE: ATTEMPT ALL QUESTIONS

1) a) What is difference between Analog Signal and Digital Signal. — 2
    b) What are the steps involved in Analog to Digital Conversion? — 1.5
    c) Which theorem governs the sampling rate? State the theorem — 1.5

2) a) Name any three different types of Communication Systems. — 1.5

    b) What do you understand by the term Channel in Communication Systems. Give Examples. — 2

    c) What is meant by Bandwidth of the signal? — 1

    d) Which testing instrument can be used to observe the frequency components present in the

    signal? — 0.5

3) a) What is the need of Control in a process? — 1

    b) What are open loop and closed loop systems? — 2

    c) What do you understand by Transient state and Steady State? What is the cause of Transient

    state? — 2

4) a) Give any two applications of Signal Processing. — 2

    b) Draw the block diagram showing VLSI Design flow. — 2

    c) What is principle of Superposition? — 1

5) QUIZ QUESTIONS

    a)Classify into active and passive components Transistor ,Diode ,Capacitor ,Resistor — 2

    b)In a communication system the maximum noise is present in _____ — 0.5

    c)Nodal Analysis is based on _____ — 0.5

    d) Stability in Electronics means_____ — 1

    e)Draw the equivalent circuits of ideal and practical diode?Also draw the characteristics of ideal diode. — 2

    f) Draw the equivalent circuit of a practical voltage source and current source? — 2

    g) Give an example of open loop and closed loop system from daily life?Justify your answer. — 2

PEC UNIVERSITY OF TECHNOLOGY
End-TermExamination(16171)

Programme: B.E (Electronics and Communication Engg.)
Course Name: Introduction to Electronics and Comm. Engg
Maximum Marks: 50+10(QUIZ)

Year/Semester: 1st
Course Code: ECN101
Time allowed: 2 Hours

Notes

- All questions are compulsory.
- Unless stated otherwise, the symbols have their usual meanings in context with subject. Assume suitably and state, additional data required, if any.
- The candidates, before starting to write the solutions, should please check the question paper for any discrepancy, and also ensure that they have been delivered the question paper of right course code.

Q. No.		Marks
1 a)	What is Signal? Differentiate between analog signals and digital signals? What is the need of Analog to Digital Conversion	4
b)	What are the steps involved in Analog to Digital Conversion? State Sampling Theorem	3
c)	Name any two theorems used for simplification of circuit analysis	1
d)	What is Digital Signal Processing(DSP)? Name two representations of signals used in DSP. Give three application areas of DSP.	4
e)	Write any three advantages of Integrated Circuits?	3
2 a)	Explain the ideal and practical behaviour of diode with the help of its characteristics. And Equivalent circuit. Also give the reason for difference in ideal and practical behaviour	5
b)	Name two types of diodes along with their applications	2
3 a)	What are the steps involved in digital system design?	2
b)	What is difference between combinational circuit and Sequential Circuit? Give Examples	3
c)	Give two applications of Digital Electronics?	1
d)	Name any two logic families.	2
5 a)	Differentiate between Circuit Analysis and Circuit Synthesis.	2
b)	Name any one specification required for design of (i)Amplifier (ii) Filter	2
c)	Give any two specifications of (i)Resistor (ii)Capacitor	2
d)	What is difference between a practical voltage source and an ideal voltage source?	2
e)	What is an Embedded system? Give example	2