

SC-130

Total No. of Pages : 2

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**T.E. (Electronics) (Semester - VI) (Revised) (New)
Examination, November - 2019**

DIGITAL SIGNAL PROCESSING

Sub. Code : 66851

Day and Date : Wednesday, 13 - 11 - 2019

Total Marks : 100

Time : 10.00 a.m. to 1.00 p.m.

- Instructions :
- 1) Figures to the right indicate full marks.
 - 2) Assume suitable data if required.

SECTION - I

Q1) Attempt any Two. [18]

- a) Explain in detail Overlap Save and Overlap Add Algorithm.
- b) Differentiate between Radix 2 DIT FFT algorithm and Radix 2 DIF FFT algorithm.
- c) An 8 point sequence is given by $x(n) = \{3, 1, 3, 1, 1, 3, 1, 3\}$. Compute 8 point DFT of $x(n)$ by Radix 2 DIT FFT.

Q2) Attempt any Two. [16]

- a) What are the limitations of Fourier Transform? Define Continuous Wavelet Transform.
- b) Explain Various Properties of Wavelet Transform.
- c) Write a note on 'Applications of Wavelet Transform.

Q3) Attempt any Two. [16]

- a) Explain in detail FIR filter Design using frequency sampling Method
- b) Explain step by step procedure for design of FIR Filter using Kaiser Window.
- c) Design a linear phase FIR high pass filter using hamming window by taking 7 samples of window sequence and with cutoff frequency, $w_c = 0.8\pi$ rad/sample.

P.T.O.

SECTION - II

Q4) Attempt any Two. [18]

- a) Explain in detail Impulse invariance Method for Design of IIR Filter.
- b) Convert the analog filter with system Transfer Function,

$$H(s) = \frac{2.8s^2 + 4.8s + 2.9}{(s+3)(s^3 + s + 0.85)}$$

into a Digital IIR by Means of the Impulse

invariant Method by taking sampling time, $T=0.5$ sec.

- c) Design a Butterworth IIR low pass filter using Bilinear transformation by taking $T=0.1$ sec. To satisfy the following specifications.

$$0.6 \leq |H(e^{jw})| \leq 1.0; \quad \text{for } 0 \leq w \leq 0.45\pi$$

$$|H(e^{jw})| \leq 0.1; \quad \text{for } 0.7\pi \leq w \leq \pi$$

Q5) Attempt any Two. [16]

- a) Write a note on 'finite word length effects in digital filter'
- b) The transfer function of the system is given by;

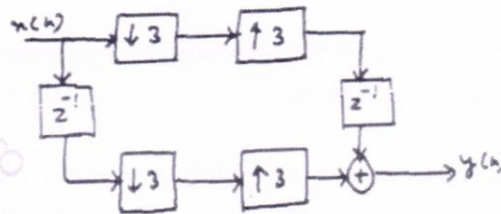
$$H(z) = \frac{(2 - z^{-1})(1 - z^{-1})^2}{(1 - 2z^{-1})(5 - 3z^{-1} + 2z^{-2})}$$

realize the system in Parallel structure.

- c) Explain in detail various addressing modes of TMS320C67xx Processor.

Q6) Attempt any Two. [16]

- a) What are various applications of multirate signal Processing?
- b) What are decimator and Interpolator? Explain process with symbolic representation.
- c) For the multirate system shown in figure below, Determine $y(n)$ as a function of $x(n)$.



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**T.E. (Electronics) (Part - III) (Semester - VI)
(New) (Revised) Examination, November- 2019**

POWER ELECTRONICS

Sub. Code : 66853

Day and Date : Friday, 15- 11 - 2019

Total Marks : 100

Time : 10.00 a.m. to 01.00 p.m.

- Instructions :**
- 1) All questions are compulsory.
 - 2) Draw neat diagram and wave form wherever necessary.
 - 3) Figures to the right indicate full marks.

Q1) Attempt any two of the following. [16]

- a) State different turn on methods of SCR and explain in detail the gate turn on method with circuit diagram and waveform?
- b) Draw and explain construction and characteristics of MOSFET.
- c) Draw the dynamic characteristics of SCR and give the significance of turn on and turn off time of SCR in design of application circuits.

Q2) Attempt any two of the following. [16]

- a) Draw and explain microprocessor based firing scheme for single phase full converter.
- b) Explain the different types of isolation circuits. What is the need of such isolation circuits, when motors are driven by power electronic circuits.
- c) Draw the UJT pulse firing circuit used in single phase ac power control and explain its operation. Draw the relevant waveforms of the voltages.

P.T.O.

Q3) Attempt any two of the following. [18]

- a) Explain the operation of single phase full bridge converter with RL load for continuous and discontinuous currents.
- b) Draw the circuit diagram of mid-point converter with RL load and draw and explain the O/P waveforms.
- c) A single phase half controlled converter is connected to 120V, 50Hz supply. The load current can be assumed to be continuous and ripple free. If the delay angle is $\pi/2$ calculate.
 - i) V_{dc}
 - ii) V_{rms}
 - iii) Harmonic factor
 - iv) Displacement factor
 - v) Power factor

Q4) Attempt any two of the following. [16]

- a) Explain the classification of choppers in details.
- b) Draw the circuit diagram of a step up chopper and derive its equation for O/P voltage.
- c) Discuss the operation of multiphase, chopper in details.

Q5) Attempt any two of the following. [16]

- a) Explain the single phase IGBT based full bridge inverter in details.
- b) How the multiple PWM techniques are used to control the O/P voltage of the inverter?
- c) Explain the different harmonic reduction techniques of the inverter.

Q6) Attempt any three of the following. [18]

- a) A.C. voltage stabilizer.
- b) Constant voltage transformer.
- c) Light dimmer using triac & diac
- d) Online and offline UPS.



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T.E. (Electronics Engg.) (Revised) (Semester - VI)

Examination, November - 2019

COMPUTER ARCHITECTURE & OPERATING SYSTEMS

Sub. Code : 66854

Day and Date : Tuesday, 19 - 11 - 2019

Total Marks : 100

Time : 10.00 a.m. to 1.00 p.m.

- Instructions :
- 1) All questions are compulsory.
 - 2) Assume suitable data wherever necessary.
 - 3) Figures to the right indicate full marks.

SECTION - I

Q1) Answer Any Two of the following. [16]

- a) Draw a flowchart for two's complement multiplier.
- b) Describe the design of accumulator based CPU.
- c) Explain booth's algorithm for multiplication.

Q2) Answer Any Two of the following. [16]

- a) Explain combinational array multiplier with suitable diagram.
- b) Draw and explain a 32 bit & 64 bit IEEE-754 Floating point data format.
- c) Define the terms-
 - i) Multiprogramming
 - ii) Spooling
 - iii) Scheduler
 - iv) Dispatcher

Q3) Answer Any Three of the following. [18]

- a) Draw & Explain control unit organization of typical micro programmed control.
- b) Explain FCFS CPU Scheduling algorithm.
- c) Define the terms-
 - i) Assembler
 - ii) Linker
 - iii) I/D Manager
- d) Describe the various functions of OS.

P.T.O.

SECTION - II

Q4) Answer Any Two of the following **[2×8=16]**

- a) Explain Process control block in detail with neat diagram.
- b) What are the different principles which must be considered while selection of a scheduling algorithm?
- c) Explain time slicing. How its duration affects the overall working of the system.

Q5) Answer Any Two of the following **[2×8=16]**

- a) What do you mean by process synchronization? Why is it required?
- b) Explain paging with example.
- c) Explain dining philosopher's problem. Explain the solution to it using semaphores.

Q6) Write short notes on any three of the following **[3×6=18]**

- a) Producer Consumer Problem
- b) Paging Vs Segmentation
- c) Population Inversion
- d) Semaphores and Types

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T.E. (Electronics) (Part - III) (Semester - VI)
Examination, November - 2019
ELECTRONIC SYSTEM DESIGN
Sub. Code : 66855

Day and Date : Wednesday, 20 - 11 - 2019
Time : 10.00 a.m. to 1.00 p.m.

Total Marks : 100

- Instructions :**
- 1) Draw neat circuit diagram with proper identification for components.
 - 2) Clearly specify assumptions if any.
 - 3) Numbers to right indicate full marks.
 - 4) Write answers to bits in questions at one place and in sequence. Do not place answers randomly.

SECTION - I

Q1) Answer any two from the following: [18]

- a) Explain the terms MTBF, MTTF and MTTR.
- b) List and explain the characteristics of an operational amplifier to be used as high frequency small signal amplifier.
- c) Draw and explain the circuit to interface output of opamp to input of TTL device. Opamp is functioning as comparator and is supplied with $\pm 12\text{Vdc}$.

Q2) Answer any two of the following: [16]

- a) The output from a load cell changes at $30\mu\text{ V/kg}$. The load cell delivers 10mV with no load on the cell. Design a zero and span (gain offset) convertor using an instrumentation amplifier (and additional components as required) that will output 0V dc when there is no load, and will change at 10m V/kg .
- b) Design a signal conditioning circuit for RTD PT-100 to get output of $10\text{mV}/^\circ\text{C}$ and 0m V at 0°C , to detect temperature in the range of 0 to 50°C . Output voltage of signal conditioning circuit should be 0 to 0.5V corresponding to range of temp.
- c) Design a floating load V to I convertor that will convert 0 to 0.5V input signal into 4 to 20mA current signal.

P.T.O.

Q3) Answer any two of the following: [16]

- a) Draw neat circuit diagram of 2 line 16 char alphanumeric LCD display module to PIC16F877 microcontroller. Use LCD module with 4 bit interface to port lines RB0 to RB3 and Use RB5 to RB7 lines to connect LCD modules control lines. Write and explain the algorithm used for initialization of LCD module.
- b) List and explain the factors responsible for selection of microcontroller used for electronic system.
- c) Draw a detailed interface diagram to interface 6 no of keys to 8051 microcontroller using scanned matrix interface. Use Port 1.0 and 1.1 as scan lines and P2.0, P2.1 and P2.2 as return lines. Write and explain key detection algorithm.

SECTION - II

Q4) Answer any two of the following: [16]

- a) Explain in detail ECG signal with different intervals and their magnitudes.
- b) Discuss general considerations in design of ECG signal conditioner.
- c) Describe microcontroller based automatic drug delivery system using peristaltic pumps with neat diagram.

Q5) Answer any two of the following. [18]

- a) With a neat diagram describe working of fly back converter.
- b) Discuss the switching buck regulator. Derive the expression for output voltage.
- c) Design boost type SMPS regulator using LM3524 to regulate output at 12 V with 100mA load current. The input voltage is 5V DC. Ripple should not exceed 10mV.

Q6) Answer any two of the following:

[16]

- a) Describe various tests carried out on different products like EEG machine, X-ray machine, pocket calculator and PLC.
- b) Explain the need of grounding and grounding principles. Also discuss about safety grounds, signal grounds and multipoint ground system.
- c) Explain different techniques to minimize EMI and disturbances.

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T.E. (Electronics Engg.) (Part-III) (Semester - V) (Revised)
Examination, November -2019
MICROCONTROLLERS
Sub. Code : 66281

Day and Date : Monday, 25 - 11 - 2019

Total Marks : 100

Time : 2.30 p.m. to 5.30 p.m.

- Instructions :
- 1) All questions are compulsory.
 - 2) Assume suitable data if necessary.
 - 3) Figures to the right indicate full marks.

SECTION-I

Q1) Answer Any four of the following. **[20]**

- a) Draw a internal data memory organization of 8051.
- b) Write a program to multiply 2 bytes and store the result in XRAM.
- c) Explain the instructions i) MOVC ii) ACALL with examples.
- d) Compare between 89C52,89C51 RD2.
- e) Describe the assembler directives - ORG, EQU, DB END.

Q2) Answer Any Two of the following. **[16]**

- a) Write ASM code for 8051to move the block of data from IRAM to XRAM (assume suitable block length).
- b) Draw & Explain the port - 0 structure of 8051.
- c) Explain the Timer/Counter mode - 2 of 8051 with suitable diagram.

P.T.O.

- Q3)** Answer Any Two of the following. **[14]**
- a) Write ASM code to receive the 5 data characters serially at 9600 baud using On-chip UART Port of 8051 and store it in IRAM address 40H onwards. (Assume crystal frequency = 12 MHz).
 - b) Draw and explain interfacing of Stepper motor to 8051.
 - c) Draw a hardware interface of 8 by 8 keyboard matrix to 8051 and explain it in brief.

SECTION-II

- Q4)** Answer Any four of the following. **[20]**
- a) Describe the keywords-interrupt, sfr with suitable examples.
 - b) Explain the various RESET options available in PIC 16F877.
 - c) Draw the interfacing of DAC to 8051.
 - d) Write embedded C Code to toggle the Port-line P1.7 of 8051.
 - e) Draw & explain the bit format of INTCON register of PIC16F877.
- Q5)** Answer any two of the following. **[16]**
- a) Draw the interfacing of ADC 0809 to 8051 and explain the conversion process.
 - b) Explain the instructions of PIC 16F877-ADDLW, BCF, COMF, CLRWDT.
 - c) Draw a block diagram of Timer-0 module of PIC 16F877 and explain in brief.
- Q6)** Answer Any two of the following. **[14]**
- a) Write assembly language program to multiply 2 bytes using PIC 16F877 instructions.
 - b) Draw & explain a data memory organization of PIC16F877.
 - c) Draw a block diagram of compare mode of PIC 16F877 and explain it in brief.



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Total No. of Pages : 4

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T.E. (Electronics) (Semester-V)
Examination, November- 2019
ELECTROMAGNETIC ENGINEERING
Sub. Code :66282

Day and Date : Wednesday, 27- 11 - 2019

Total Marks : 100

Time : 2.30 p.m. to 5.30 p.m.

- Instructions :
- 1) All the questions are compulsory.
 - 2) Figure to the right indicates full marks.
 - 3) Assume suitable data wherever necessary.
 - 4) Use of nonprogrammable calculator is allowed.

Q1) Attempt any two.

[16]

a) Given points A (2,5,-1),B(3,-2,4) and C(-2,3,1) find:

i) $\vec{R}_{AB} \cdot \vec{R}_{AC}$.

ii) The angle between \vec{R}_{AB} \vec{R}_{AC}

iii) The length of projection of \vec{R}_{AB} on \vec{R}_{AC}

v) The vector projection of \vec{R}_{AB} \vec{R}_{AC}

b) Explain physical significance of curl and divergence.

c) Find the electric field intensity \vec{E} at a point P due to infinite line charge distributed along the z-zxis.

Q2) Attempt any two.

[16]

a) Given the vector field $G=2x^2y\vec{a}_x -2(z-x)\vec{a}_y +3xyz\vec{a}_z$, find : (a) G at P(2,-3,4); (b) a unit vector in the direction of G at P;(c) the (scalar) equation of the surface on which $|G| =100$;(d) the y coordinate of Q(-3,y,5) if $|G_Q|=100$ and $y>0$; (e) the distance between P and Q.

P.T.O.

- b) Find the force on a $100 \mu\text{C}$ charge at $(0,0,3)$ m. If four like charges of $20 \mu\text{C}$ are located on the x and y axis at ± 4 m.
- c) From Biot savart laws derive the expression for magnetic field intensity \bar{H} due to infinitely long straight filament carrying current of I ampere.

Q3) Attempt any Three.

[18]

- a) Given fields $G_1=5(x+y)a_x + 10a_y$ and $G_2=5a_x + 2xya_y$, find at $P(3,2,0)$; (a) $|G_1|$; (b) $|G_2|$; (c) a_1 a unit vector in the direction of G_1 ; (d) a_2 a unit vector in the direction of G_2 ; (e) a_{12} a unit vector in the direction of (G_1+G_2)
- b) Four point's charges of 3nC each are placed at four corners of a square 2 meters inside. Find the force acting on each charge.
- c) Find the magnetic field intensity \bar{H} at a point P at a distance Z axis of circular loop, which carries a current of I amperes.
- d) Point charges of 15nC each are symmetrically located at $(4,4,0)$, $(4,-4,0)$, $(-4,4,0)$, and $(-4,-4,0)$, and a uniform line charge of 50 nC/m lies at $x=0, y=8$, all z (i) find D at the origin, (ii) how much electric flux crosses the $y=0$ plane? (iii) How much electric flux leaves the surface of a sphere of radius 5m centered at $(0,6,0)$?

SECTION - II

Q4) Attempt any two.

[16]

- a) Discuss in detail maxwell's equations for harmonically varying fields.
- b) Let the characteristic impedance of the line be 50Ω . The line is terminated at following points $Z_1=100+j50\Omega$; $Z_2=100-j50\Omega$; $Z_3=100\Omega$; $Z_4=j100\Omega$ Z_5 =open circuit; Z_6 =short circuit. Determine normalized impedances and locate on the smith chart.
- c) The velocity of propagation on a certain lossless transmission line is $v=250\text{m}/\mu\text{s}$. if $C=30\text{pf}/\text{m}$, find i) L ; ii) Z_0 ; iii) β at 100MHz ; iv) the line is terminated by 50Ω resistor. Find reflection coefficient Γ .

Q5) Attempt any two.

[16]

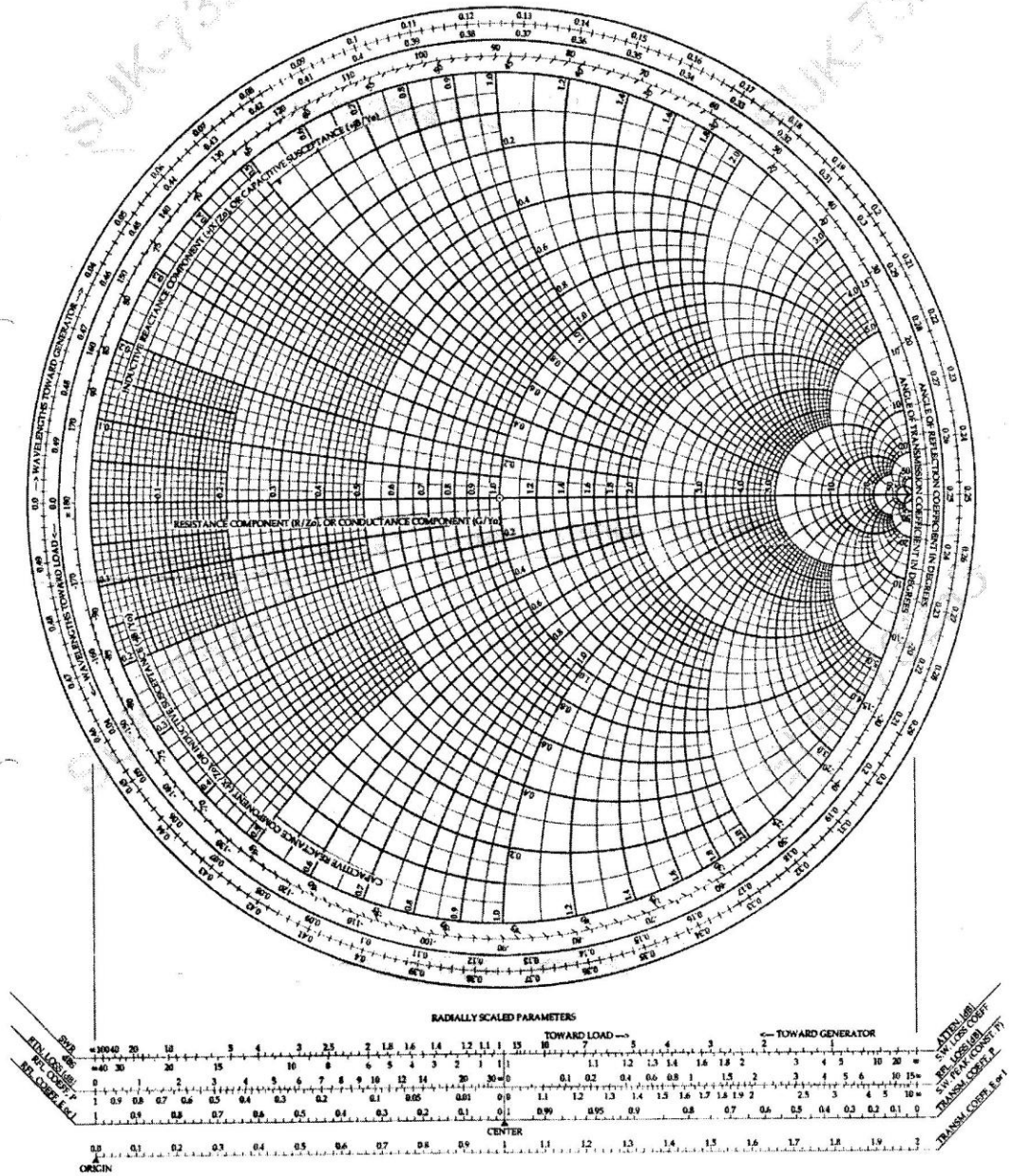
- a) Derive Helmholtz's equations for conduction media in plane wave propagation.
- b) The magnetic field intensity of a uniform plane wave in air is 20 A/m in the y direction. The wave is propagating in the z direction at a frequency of 2 Grad/s (2×10^9 rad/s). find i) wavelength ii) the frequency iii) the period iv) the amplitude of E
- c) A 300MHz wave propagating through fresh water . Assuming a lossless medium $\mu_r=1$, $\epsilon_r=78$. find β, v, λ, η .

Q6) Attempt any Three.

[18]

- a) Group velocity and phase velocity
- b) Faraday's law
- c) Smith chart
- d) Comparison between circuit theory and field theory.

The complete smith chart
Black magic design



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Total No. of Pages : 2

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T.E. (Electronics) (Semester - V) (Revised)

Examination, November - 2019

VLSI DESIGN

Sub. Code : 66283

Day and Date : Friday, 29 - 11 - 2019

Total Marks : 100

Time : 2.30 p.m. to 5.30 p.m.

- Instructions :**
- 1) All questions are compulsory.
 - 2) Figures to right indicate full marks.
 - 3) Assume suitable data if necessary.

Q1) Attempt any three. [18]

- a) Describe with neat diagram levels of abstractions in VLSI design.
- b) Explain capabilities of VHDL.
- c) Explain various types of architectures in VHDL coding with their syntax.
- d) Write VHDL code for tri-state buffer.

Q2) Attempt any two [16]

- a) Write VHDL code for 4:16 decoder using 2:4 decoder
- b) Write VHDL code for 8:1 multiplexer using case statement
- c) What is sensitivity of process statement? Explain with example process Statement with and without sensitivity list.

Q3) Attempt any two [16]

- a) Differentiate between variables, signals and constants in VHDL.
- b) Write VHDL code for 4-bit shift register.
- c) Write VHDL code for D-latch & D flip-flop.

P.T.O.

Q4) Attempt any three.

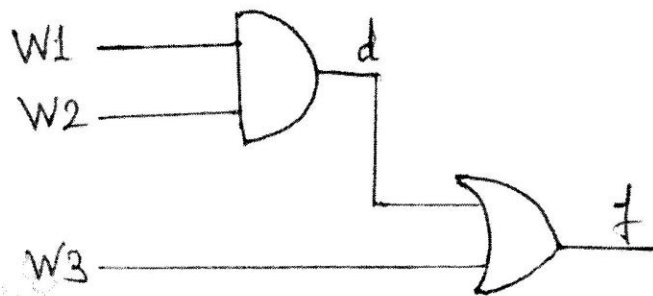
- a) With a neat waveform and suitable example explain inertial and transport delays.
- b) Explain any two types of attributes of VHDL with example.
- c) Draw and explain VLSI design flow.
- d) Design FSM for 3-bit gray counter and describe using VHDL code.

Q5) Attempt any two

- a) Describe with neat diagram methods of data transfer in datapath circuits.
- b) Design datapath that can execute the following statements, $A=B+C$ & $A=B+5$
Generate control words.
- c) With a neat diagram explain general datapath using ALU to implement statement, $A=A+3$

Q6) Attempt any two.

- a) Draw and explain macrocell of XC 95xx CPLD.
- b) With a neat diagram explain I/O block of FPGA
- c) Describe various faults in VLSI design. Find minimal test vector for following circuit



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T.E. (Electronics) (Semester-V)
Examination, December - 2019
DIGITAL COMMUNICATION
Sub. Code : 66284

Day and Date : Monday, 02 - 12 - 2019

Total Marks : 100

Time : 2.30 p.m. to 5.30 p.m.

- Instructions :
- 1) All questions are compulsory.
 - 2) Figures to the right indicate full marks.
 - 3) Assume suitable data wherever necessary.

SECTION-I

Q1) Solve any Two. [18]

- a) With neat block diagram of transmitter and receiver explain PCM in detail.
- b) Consider the experiment that consist in the tossing of three honest coins, the random variable chosen is defined as assigning 0 to tail and 1 to head and then adding the numbers. Determine and plot the cumulative distribution function.
- c) Explain Ensemble mean, Time Average and Ergodicity of random Process in detail.

Q2) Solve any Two. [16]

- a) Draw and explain with block Diagram linear Delta modulation.
- b) What is quantization? Explain mid-tread and mid-rise quantizer, with suitable figure.
- c) What is Probability Density Function? Explain its various properties in brief.

P.T.O.

Q3) Solve any Two.**[16]**

- a) Draw and explain scrambler and unscrambler implementation using shift register structure.
- b) Explain with neat diagram early-late synchronization.
- c) Explain bit or symbol synchronization with neat block diagram.

SECTION-II**Q4) Solve any Two.****[18]**

- a) Explain the generation and detection of a coherent BPSK signal with neat sketch.
- b) What is eye pattern? Explain the measurement of different parameters using eye pattern.
- c) With suitable block diagram, explain the working principle of
 - i) Direct sequence spread spectrum system and
 - ii) Frequency Hopping spread Spectrum system.

Q5) Solve any Two.**[16]**

- a) With neat diagram, explain the working principle of DEPSK technique.
- b) Explain in detail about the QAM techniques with relevant diagrams.
- c) Explain Nyquist Criterion for pulse shaping to realize ISI free transmission.

Q6) Solve any Two.**[16]**

- a) Construct a PN sequence generator for maximum length of 15 sequence and prove its properties.
- b) With required block diagram explain ASK modulator and demodulator. Also discuss bit error probability of ASK demodulator.
- c) Explain the use of spread spectrum using code division multiple access.



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T.E. (Electronics Engg.) (Semester - V)
Examination, November - 2019
SIGNALS AND SYSTEMS
Sub. Code : 66280

Day and Date : Friday, 22 - 11 - 2019

Total Marks : 100

Time : 2.30 p.m. to 5.30 p.m.

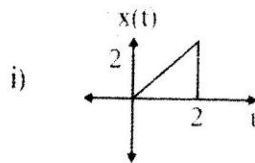
- Instructions :
- 1) All questions are compulsory.
 - 2) Figure to the right indicate full marks.
 - 3) Assume necessary data wherever required.

SECTION - I

Q1) Solve any two

[16]

- a) Draw even and odd parts of following signals



ii) $x[n] = [1, 2, 3, 0, 3, 2, 1]$
 \uparrow

- b) Identify whether the following systems are time invariant/variant, stable/unstable.

i) $y(t) = e^{-2x(t)}$

ii) $y[n] = x\left[\frac{n}{2}\right]$

P.T.O.

c) The DT signal is $x[n] = [3, 2, 1, 0, 1, 2, 3]$ Sketch and label following



i) $x[n+1]$

ii) $x[1-n]$

iii) $x[n]u[1-n]$

iv) $x[n]-x[-n]$

2) Solve any two:

[16]

a) Identify whether the following signals are energy signal, power signal or neither of two

i) $x[t] = 5t.u[t]$

ii) $x[n] = n$ for $0 \leq n \leq 4$

b) Identify whether the following systems are, causal/noncausal and linear/nonlinear

i) $y(t) = e^{-2x(t)}$

ii) $y(n) = x[n^2]$

c) Find the convolution of following signals by analytical method and plot the result.

$x(n) = [1, 2, 3, 4, 5]$ and $h[n] = [1, 2, 3, 3, 2, 1]$



) Solve any three

[18]

a) State and explain sampling theorem.

b) Determine the stability and causality of following Linear Time Invariant systems whose impulse responses are.

i) $h(t) = e^{-3t}u(-t-3)$

ii) $h(n) = a^n u(n-1)$

- c) What is Interpolation? What are its methods? Explain band limited method.
- d) Determine the Nyquist sampling rate and interval for following signals.
- i) $x(t) = \text{sinc}(250\pi t)$
- ii) $x(t) = 3\cos(200\pi t) + 2\sin(400\pi t)$

SECTION - II

Q4) Solve any two:

[18]

a) Compute FT of the following

i) $x(t) = e^{-at}u(t)$

ii) $x[n] = \cos(\Omega_0 n)$

b) Find ZT of following and determine ROC

$$x[n] = \frac{1}{2}n(n-1)u[n]$$

c) Explain any four properties of DFT with proof.

Q5) Solve any two

[16]

a) Draw the direct form II realization of following system.

$$\frac{d^2y(t)}{dt^2} + 2\frac{dy(t)}{dt} + y(t) = \frac{dx(t)}{dt} - 2x(t)$$

b) Find IZT of following

$$X[Z] = \frac{10Z}{(Z+4)^2(Z+2)} \text{RoC } |Z| > 4 \text{ by PFE method}$$

c) Compute following for $N = 4$ by matrix method

i) DFT of $x[n] = \cos\left(\frac{\pi n}{4}\right)$

ii) IDFTX $[K] = [1, 2, 3, 4]$

) Solve any two

[16]

- a) Explain any four properties of ZT with proof.
b) Draw the direct form I realization of following system.

$$y[n] = 2y[n-1] + 3y[n-2] + \frac{1}{4}y[n-3] + x[n] + 3x[n-1] + 2x[n-2]$$

c) Explain four properties of CTFT in detail.

