Re-Accredited B++ 2.86 CGPA by NAAC
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વીર નર્મદ દક્ષિણ ગુજરાત યુનિવર્સિટી
યુનિવર્સિટી કેમ્પસ, ઉધના-મગદલ્લા રોડ, સુરત - ૩૯૫ ૦૦૭, ગુજરાત, ભારત.
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-: પરિપત્ર :-

યુનિવર્સિટી સંલગ્ન વિજ્ઞાન વિદ્યાશાખા હેઠળની તમામ કોલેજોનાં આચાર્યશ્રીઓને જણાવવાનું કે, શૈક્ષણિક વર્ષ ૨૦૨૫–૨૬ થી અમલમાં આવનાર B.Sc. (Electronics) Sem.-1 & 3 MDC નો અભ્યાસક્રમ ઈલેકટ્રોનિકસ વિષયની નિયુકત એડહોક અભ્યાસ સમિતિના કન્વીનરશ્રીએ અભ્યાસ સમિતિવતી અને વિજ્ઞાન વિદ્યાશાખાના અધ્યક્ષશ્રીએ વિદ્યાશાખાની મંજૂરીની અપેક્ષાએ વિદ્યાશાખાવતી ડીનશ્રીએ મંજૂર કરી એકેડેમિક કાઉન્સિલને કરેલ ભલામણ એકેડેમિક કાઉન્સિલની તા.૨૪/૧૨/૨૦૨૪ ની સભાના ઠરાવક્રમાંકઃ૩૫૩ અન્વયે માન.કુલપતિશ્રીને આપેલ સત્તા અંતર્ગત માનનીય કુલપતિશ્રી દ્વારા મંજૂર કરેલ છે.જેનો અમલ કરવા આથી જાણ કરવામાં આવે છે.

(બિડાણઃ ઉપર મુજબ)

ક્રમાંકઃઓથોરીટીઝ/પરિપત્ર/૧૯૯૩૬/૨૦૨૫
તા.૨૮/૦૭/૨૦૨૫

કુલસચિવ

પ્રતિ,
૧) યુનિવર્સિટી સંલગ્ન વિજ્ઞાન વિદ્યાશાખા હેઠળની તમામ કોલેજોનાં આચાર્યશ્રીઓ.
..... આપશ્રીની કોલેજના સંબંધિત શિક્ષકોને જાણ કરી અમલ કરવા સારૂ.
૨) અધ્યક્ષશ્રી, વિજ્ઞાન વિદ્યાશાખા.
૩) પરીક્ષા નિયામકશ્રી,પરીક્ષા વિભાગ, વીર નર્મદ દ. ગુ. યુનિવર્સિટી, સુરત.
.....તરફ જાણ તેમજ અમલ સારૂ.

Veer Narmad South Gujarat University, Surat

NEP-2020 : Syllabus for F Y B Sc Multi-Disciplinary Course Semester-1
(With Effect From June 2025)

PAPER : Introduction to Digital Electronics

(Total 4 Credit : 4 for Theory)

Unit - 1: Introduction to Semiconductor Diode

Semiconductors, extrinsic semiconductor, P-type , N-type, majority & minority carriers, formation of PN Junction, forward bias, reverse bias, diode characteristics, Breakdown in diodes, Zener breakdown,

Unit – 2 : Introduction to Number System

Number System and Codes: Concepts of various number system (Decimal, Binary, Hexadecimal, Octal) its inter conversion, Various codes (BCD, excess 3, Gray, ASCII), Method of converting Binary code to Gray code and vice versa, various error detecting and correcting codes (parity bit, check sum, Hamming).

Unit – 3 Binary Arithmetic

Binary Arithmetic; Binary addition and subtraction, Hexadecimal addition and subtraction, various method for representation negative number in Binary (1's and 2's complement arithmetic), BCD addition.

Unit – 4 : Introduction to Logic Gates

What is Gate?, Basic Logic Gates AND, OR, NOT and its logic symbol and the truth table, its ANSI/IEEE symbols, NAND and NOR as universal logic gates logic, construction of Universal logic gates from basic logic gates, XOR and XNOR as Special logic gates and its truth table and logic symbol

Recommended List of Books:

1) Digital Logic and Computer Design, M Mano, PHI, New Delhi.
2) Fundamentals of Digital Circuits, A. Anand Kumar, PHI, New Delhi.
3) Digital Principles and Application, Malvino Leach, TMH, New Delhi.
4) Principles of Digital Electronics by K Meena, PHI, New Delhi.
5) Digital Systems: Principles and Application, by Tocci and Widmei, PHI

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NEP-2020 : Syllabus for S Y B Sc (Electronics) Multi-Disciplinary Course Semester-3
(With Effect From June 2025)

PAPER : Design of Digital Electronics Circuits

(Total 4 Credit : 4 for Theory)

Unit - 1: Introduction to Logic Gates

Various basic and universal logic gates, its ANSI/IEEE symbols, logic and truth table for AND, OR and NOT gates and its truth table, NAND and NOR as universal logic gates, XOR and XNOR as Special logic gates and its truth table

Unit – 2 : Boolean Algebra and Boolean Expression

Boolean algebra, AND, OR, NOT as Boolean operators, Various Laws of Boolean algebra, various Theorems of Boolean algebra, De'Morgan's theorem, basic equality of Boolean algebra, dual expression in Boolean algebra, logic diagram, logic circuit from expression and vice versa using basic and universal logic gates, Reduction of Boolean Expression using Boolean Laws,

Unit 3 : Simplification of Boolean Expression using K-Map

Necessity and various techniques for reducing Boolean expressions, Standard representation of logic functions (SOP and POS), K Maps & its application in Circuits Design, Mean term and max term in Boolean expression, introduction of K map, drawing k map for 3 variable and 4 variable expressions, pair s, quads, octet in K map, reduction of Boolean expression using K map, Don't care problems and concept of redundant groups

Unit – 4: Combinational Logic Circuit Design:

Design of Half Adder Circuit, Design of Full Adder Circuit, Design of Half subtracotr Circuit, Design of Full subtractor, Design of Binary to Gray encoder circuit, Design of Gray to Binary decoder circuit, Circuit, Design of Binary to BCD converter circuit,

Recommended List of Books:

1) Digital Logic and Computer Design, M Mano, PHI, New Delhi.
2) Fundamentals of Digital Circuits, A. Anand Kumar, PHI, New Delhi.
3) Digital Principles and Application, Malvino Leach, TMH, New Delhi.
4) Principles of Digital Electronics by K Meena, PHI, New Delhi.
5) Digital Systems: Principles and Application, by Tocci and Widmei, PHI