B.S Sc. Physics with C A (Colleges) 2014-15

Annexure No. 19 B

SCAA Dt. 06.02.2014

Bharathiar University, Coimbatore - 641 046

B.Sc. Physics with Computer Applications

Scheme of Examinations (CBCS Pattern)

(For the students admitted during the academic year 2014-2015 and onwards)

<table>
<thead>
<tr>
<th>Part</th>
<th>Study Components</th>
<th>Course Title</th>
<th>Ins. hrs / week</th>
<th>Exam Dur. Hrs.</th>
<th>CIA Marks</th>
<th>Total Marks</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Semester I</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>Language-I</td>
<td>6</td>
<td>3</td>
<td>25</td>
<td>75</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>II</td>
<td>English-I</td>
<td>6</td>
<td>3</td>
<td>25</td>
<td>75</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>III</td>
<td>Core I – Mechanics, Properties of Matter and Sound</td>
<td>6</td>
<td>3</td>
<td>25</td>
<td>75</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>III</td>
<td>Practical I</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>III</td>
<td>Allied A - Mathematical Paper I</td>
<td>7</td>
<td>3</td>
<td>25</td>
<td>75</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>IV</td>
<td>Environmental Studies #</td>
<td>2</td>
<td>3</td>
<td>-</td>
<td>50</td>
<td>50</td>
<td>2</td>
</tr>
<tr>
<td><strong>Semester II</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>Language-II</td>
<td>6</td>
<td>3</td>
<td>25</td>
<td>75</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>II</td>
<td>English-II</td>
<td>6</td>
<td>3</td>
<td>25</td>
<td>75</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>III</td>
<td>Core II – Heat and Thermodynamics</td>
<td>6</td>
<td>3</td>
<td>25</td>
<td>75</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>III</td>
<td>Practical I</td>
<td>3</td>
<td>3</td>
<td>40</td>
<td>60</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>III</td>
<td>Allied A - Mathematical Paper II</td>
<td>7</td>
<td>3</td>
<td>25</td>
<td>75</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>IV</td>
<td>Value Education - Human Rights #</td>
<td>2</td>
<td>3</td>
<td>-</td>
<td>50</td>
<td>50</td>
<td>2</td>
</tr>
<tr>
<td><strong>Semester III</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>Language-III</td>
<td>6</td>
<td>3</td>
<td>25</td>
<td>75</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>II</td>
<td>English-III</td>
<td>6</td>
<td>3</td>
<td>25</td>
<td>75</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>III</td>
<td>Core III – Optics</td>
<td>4</td>
<td>3</td>
<td>25</td>
<td>75</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>III</td>
<td>Practical II</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>III</td>
<td>Allied - Chemistry I</td>
<td>4</td>
<td>3</td>
<td>20</td>
<td>50</td>
<td>75</td>
<td>3</td>
</tr>
<tr>
<td>III</td>
<td>Allied – Chemistry Practical</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>IV</td>
<td>Skill Based Subject – MS Office</td>
<td>3</td>
<td>3</td>
<td>20</td>
<td>55</td>
<td>75</td>
<td>3</td>
</tr>
<tr>
<td>IV</td>
<td>Tamil @ / Advanced Tamil# (OR) Non-major elective - I (Yoga for Human Excellence)# / Women’s Rights #</td>
<td>2</td>
<td>3</td>
<td>50</td>
<td>50</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Semester IV</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>------------------</td>
<td>------------------</td>
<td>------------------</td>
<td>------------------</td>
<td>------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>Language-IV</td>
<td>6</td>
<td>3</td>
<td>25</td>
<td>75</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>II</td>
<td>English-IV</td>
<td>6</td>
<td>3</td>
<td>25</td>
<td>75</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>III</td>
<td>Core IV – Atomic Physics and Spectroscopy</td>
<td>4</td>
<td>3</td>
<td>25</td>
<td>75</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>III</td>
<td>Practical II</td>
<td>2</td>
<td>3</td>
<td>40</td>
<td>60</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>III</td>
<td>Allied - Chemistry II</td>
<td>4</td>
<td>3</td>
<td>20</td>
<td>55</td>
<td>75</td>
<td>3</td>
</tr>
<tr>
<td>III</td>
<td>Allied – Chemistry Practical</td>
<td>3</td>
<td>3</td>
<td>20</td>
<td>30</td>
<td>50</td>
<td>2</td>
</tr>
<tr>
<td>IV</td>
<td>Skill based Subject – Principles of Programming Concepts and C Programming</td>
<td>3</td>
<td>3</td>
<td>20</td>
<td>55</td>
<td>75</td>
<td>3</td>
</tr>
<tr>
<td>IV</td>
<td>Tamil @ /Advanced Tamil # (OR) Non-major elective -II (General Awareness #)</td>
<td>2</td>
<td>3</td>
<td>50</td>
<td>50</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Semester V</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>Core V – Mathematical Physics</td>
<td>5</td>
<td>3</td>
<td>25</td>
<td>75</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>III</td>
<td>Core VI – Applied Electronics</td>
<td>4</td>
<td>3</td>
<td>25</td>
<td>75</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>III</td>
<td>Core VII – Solid State Physics</td>
<td>5</td>
<td>3</td>
<td>25</td>
<td>75</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>III</td>
<td>Core VIII– Electricity and Magnetism</td>
<td>4</td>
<td>3</td>
<td>25</td>
<td>75</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>III</td>
<td>Practical III - Electronics Alone</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>III</td>
<td>Elective I - Digital and Micro Processor</td>
<td>4</td>
<td>3</td>
<td>20</td>
<td>55</td>
<td>75</td>
<td>3</td>
</tr>
<tr>
<td>III</td>
<td>Elective Practical - Digital and Micro Processor</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>IV</td>
<td>Skill based Subject – Object Oriented Programming in C++</td>
<td>3</td>
<td>3</td>
<td>20</td>
<td>55</td>
<td>75</td>
<td>3</td>
</tr>
<tr>
<td>Semester VI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>Core IX – Quantum Mechanics and Relativity</td>
<td>5</td>
<td>3</td>
<td>25</td>
<td>75</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>III</td>
<td>Core X - Nuclear Physics</td>
<td>5</td>
<td>3</td>
<td>25</td>
<td>75</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>III</td>
<td>Core XI – Numerical Methods</td>
<td>5</td>
<td>3</td>
<td>25</td>
<td>75</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>III</td>
<td>Core XII – Fundamental of Nano Materials</td>
<td>4</td>
<td>3</td>
<td>25</td>
<td>75</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>III</td>
<td>Practical III - Electronics Alone</td>
<td>3</td>
<td>3</td>
<td>40</td>
<td>60</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>III</td>
<td>Elective –II Matlab</td>
<td>4</td>
<td>3</td>
<td>25</td>
<td>75</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>III</td>
<td>Elective –III - Practical - Digital and Micro Processor</td>
<td>2</td>
<td>3</td>
<td>20</td>
<td>55</td>
<td>75</td>
<td>3</td>
</tr>
<tr>
<td>IV</td>
<td>Skill based Subjects Practical</td>
<td>2</td>
<td>3</td>
<td>30</td>
<td>45</td>
<td>75</td>
<td>3</td>
</tr>
<tr>
<td>V</td>
<td>Extension Activities #</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>50</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3500</td>
</tr>
</tbody>
</table>

@ No University Examinations. Only Continuous Internal Assessment (CIA)
# No Continuous Internal Assessment (CIA). Only University Examinations.

SEMESTER III
SKILL BASED SUBJECT I – MS OFFICE

No. of instruction hours: 3 hours

Subject Description: This paper deals with the basics of MS office.

Goal: To learn about the basic concepts of MS word, MS excel and Power point

Unit I
BASICS OF COMPUTER

Introduction: What is a Computer - Software and Hardware Hardware Components -Hardware

Accessories Operating System Software -Software Applications

Computer Network: LAN - Internet - E-Mail – Browsers- E-Mail -- Clients

Unit II
MS WORD

Setting Page Style - Formmatting -Border & Shading -Columns -Header & foot- Setting Footnotes -

Inserting manual Page break - Column break and line break.-Creating sections and frames-

Inserting Clip arts, pictures, and other files-. Anchoring & Wrapping

Setting Document Styles - .Table of Contents -Index - Page Numbering, data &Time, Author etc., -Creating Master Documents -Web page

Unit III
MS EXCEL:

Creating worksheet - entering and editing text, numbers, formulas - saving – Excel functions

modifying worksheet range selection copying and moving data - defining names - inserting of
deleting rows of columns - moving around worksheet naming worksheet, copying inserting of
deleting worksheet - formatting, gauging, heading displaying value- changing of selecting fonts,
protesting data using style so templates - reprinting worksheet creating charts - managing date -
what if tables pate tables wraps, macros, linking worksheets.

Unit IV
MS POWER POINT

Creating a presentation : Setting presentation style - Adding Text to the presentation

Formatting a presentation: Adding style - Color, gradient fills - Arranging objects - Adding
Header & Footer - Slide Background - Slide layout

Adding Graphics to the presentation: Inserting pictures, movies, tables, etc into the
presentation - Drawing Pictures using Draw

Adding effects to the presentation:Setting Animation & transition effect - Adding audio and
video

Unit V
MS Access

Introduction: Database concepts - Tables - Queries - Forms - Reports

Opening & Saving database files: Creating Table Design - Indexing - Entering data - Importing
data

Creating Queries:SQL statements - Setting relationship - Using wizards
Creating Forms: GUI - Form Creating & printing reports

Text Books:
1. Step by Step 2007 Microsoft Office System (W/CD) by Curtis Frye, Joyce Cox, Steve Lambert
2. Microsoft Office Word 2007 Plain & Simple by Jerry Joyce & Marianne Moon
4. Microsoft Office Powerpoint 2007 Plain & Simple Nancy Muir

Reference books :

SEMESTER – IV

SKILL BASED SUBJECT II
PRINCIPLES OF PROGRAMMING CONCEPTS AND C PROGRAMMING

No. of Credit Hours: 3 Hours
Subject Description This subject deals with the programming concepts of C language
Goal To learn about C programming with various features

Objectives
On successful completion of this subject the student should have.
Writing programming ability on scientific and mathematical problems
It is very useful to the students in many ways like their higher studies and research etc.,
because of its versatility.

UNIT I
(9 hrs)
data types – declaration of variables – assigning values to variables – defining symbolic
constants.

UNIT II
(9 hrs)
Arithmetic operators – relational operators – logical operators – assignment operators – increment
and decrement operators – conditional operators – special operators – arithmetic expression –
evaluation of expression. – precedence of arithmetic operators – some computer problems – type
conversion in expression – operator precedence and associativity – mathematical functions.

UNIT III
(9 hrs)
Reading and writing character – formatted input and output – decision making: IF statement:
go to statement – while .. do while – For loop – Jumps in loops – simple programs.
UNIT IV (9 hrs)

UNIT V (9 hrs)
Need for user defined functions – A multifunction program – RETURN values and their types – functions calls – category of functions – no arguments and no return values – simple programs.

Text Book
1. “Programming in ANSI C” by E. Balagurusamy, 3rd Edition

Reference Book

SEMESTER – V

SKILL BASED SUBJECT III - OBJECT ORIENTED PROGRAMMING WITH C++

No. of Credit Hours: 3 Hours

Subject Description :
This subject deals with the programming concepts of object oriented programming using C++

Goal: To learn about object oriented programming concepts with different features

Objectives
On successful completion of this subject the student should have
- Writing program ability on oops concepts like encapsulation, data abstraction, inheritance, polymorphism and overloading etc.
- To implement various scientific and mathematical problems with minimum no. of lines.

UNIT I (9 hrs)
Software evolution – Procedure Oriented programming object oriented programming (oop) – Basic concepts benefits of OOP – Object oriented languages – Application of OOP – A simple C++ program – Structure of C++ program- Tokens – Key words- Identifiers and constants Basic data types – User defined Data Types – Derived data types – symbolic constants – Type compatibility – Declaration of variables – Dynamical Initialization of variables – Reference variables – Operators in C++ - Scope resolution operators.

UNIT II (9 hrs)
UNIT III
Constructors and destructors – operator over loading and type conversions

UNIT IV
Inheritance : Extending classes – Pointers- Polymorphism – pointers to objects – this pointer
pointers to derived classes.

UNIT V
Virtual functions – pure virtual functions – Managing console I / o operators.

Text Book

SEMESTER VI - SKILL BASED SUBJECT IV - PRACTICAL

MS WORD
1. Type Chairman”s speech/ Auditor”s report / Minutes/ Agenda and perform the following
operations: Bold, Underline, Font Size, style, Background color, Text color, Line spacing, Spell
Check, Alignment, Header & Footer, Inserting pages and page numbers, Find and Replace
2.Prepare a Class Time Table and perform the following operations: Inserting the table, Data
Entry, Alignment of Rows and Columns, Inserting and Deleting the Rows and Columns and
Change of Table Format

MS EXCEL
1. Prepare a statement of Bank customer”s account showing simple and compound interest
calculations for 10 different customers using mathematical and logical functions.
2.Prepare a mark list of your class (minimum of 5 subjects) and perform the following
operations: Data Entry, Total, Average, Result and Ranking by using arithmetic and logical
functions and sorting.

MS POWERPOINT
1. Design presentation slides for a product of your choice. The slides must include name, brand
name, type of product, characteristics, special features, price, special offer etc. Add voice if
possible to explain the features of the product. The presentation should work in manual mod
2. Design presentation slides for the Seminar/Lecture Presentation using animation effects and
perform the following operations: Creation of different slides, changing background color, font
color using word art

Programming in C (ANY 5)
1. Find the number of Days elapsed between two dates.
2. Convert Integer in the range 1 to 100 in words.
3. Write a program that uses functions to compare two strings input by user. The Program
should state whether the first string is less than, equal or greater than the second Strings.
4. Write a Program to compare two files printing the Character position where they equal
and where they are differ.
5. Write a Program for Matrix addition
6. Write a Program for Matrix Multiplication.
7. Write a Program for Addition of Two times
8. Write a Program for find the Inverse of given Matrix
9. Write a Program for display the Multiplication table.

Programming in C++ (ANY 5)
1. To read any two number through the key board and to perform simple Arithmetic Operation (Use Do while loop)
2. To display the name of the day in a week, depending upon the number entered through the keyboard using Switch – case statement.
3. To read the elements of the given two matrix of m X n and to perform the Matrix addition
4. Write a Program for Matrix Multiplication table.
5. Write a Program to find the Inverse of Given m X n Matrix
6. Write a Program to find the Modulus of the Given Number
7. Write a Program to compare two files printing the character position where they are equal and where they are differ.

SEMESTER – VI
CORE PAPER XI – NUMERICAL METHODS

No. of Credit Hours: 4 Hours
Subject description: This paper contains the fundamentals of numerical methods.
Goal: It gives logic and programming knowledge to the students

UNIT I
(12hrs)

SOLUTION OF EQUATIONS AND EIGENVALUE PROBLEMS


UNIT II
(12hrs)

INTERPOLATION AND APPROXIMATION
Lagrangian Polynomials – Divided differences – Interpolating with a cubic spline – Newton’s forward and backward difference formulas.

UNIT III
(12hrs)

NUMERICAL DIFFERENTIATION AND INTEGRATION
Derivatives from difference tables – Divided differences and finite differences –Numerical integration by trapezoidal and Simpson’s 1/3 and 3/8 rules – Romberg’s method – Two and
Three point Gaussian quadrature formulas – Double integrals using trapezoidal and Simpson’s rules.

UNIT IV (12hrs)
INITIAL VALUE PROBLEMS FOR ORDINARY DIFFERENTIAL EQUATIONS


UNIT V (12hrs)
BOUNDARY VALUE PROBLEMS IN ORDINARY AND PARTIAL DIFFERENTIAL EQUATIONS

Finite difference solution of second order ordinary differential equation – Finite difference solution of one dimensional heat equation by explicit and implicit methods – One dimensional wave equation and two dimensional Laplace and Poisson equations.

TEXT BOOKS

REFERENCES

SEMESTER – VI
CORE PAPER XII – FUNDAMENTALS OF NANOMATERIALS

No. of Credit Hours: 4 Hours

Subject Description
This paper presents basic principles of nano materials. This paper gives deep knowledge to the students regarding the nano particles.

Goal
To enable the students to learn the basic principles, theory and concepts of nano mechanics.

Objectives
To give description for the students in order to
    Learn the size of the particles
    Acquire basic knowledge of atomic sizes.
Unit 1. INTRODUCTION TO NANOTECHNOLOGY

Definition of Nanoscale system – Feymann theory of Nanotechnology – types of nanotechnology – Molecular Nanotechnology – Molecular and atomic size – Surface and dimensional space – opportunities at the Nanoscale.

Unit 2. NANO PROPERTIES

Forces between atoms and molecules, particles and grain boundaries – Vander Waals and electrostatic forces between surface – Nano and Mesopores – size dependent variation in magnetic, electronic transport, resistivity, optical and etc – Misnomers and misconception of Nanotechnology.

Unit 3. QUANTUM CONFINEMENT


Unit 4. SYNTHESIS OF NANOMATERIALS AND ITS CHARACTERIZATION


Unit 5. APPLICATION OF NANOMATERIALS


REFERENCES:
SEMESTER – V   ELECTIVE – I
PRINCIPLES OF DIGITAL ELECTRONICS AND MICRO PROCESSORS

No. of credit hours: 4 hours

Subject Description
This paper presents basic principles of digital electronics. This paper gives deep knowledge to the students regarding number system, arithmetic building blocks, memories and data processing circuits.

Goal
To enable the students to learn the basic principles, theory and concepts of number system memories and data processing circuits counters

Objectives
To give description for the students in order to
- Learn the logic circuits
- Acquire basic knowledge of binary addition
- Understand the action and application of counters
- Get a deep knowledge of various memories used in computer circuits

UNIT 1  (12 hrs)
Arithmetic Circuits

Flip – Flops:

UNIT 2  (12 hrs)
Shift Register and Counters

UNIT 3  (12 hrs)
Semiconductor Memories
Basic – Memory addressing – ROM’s PROM’s and EPROM’s – RAM’s – DRAM’s – DynamicRAM’s.

D/A and A/D Conversion:
Unit 4  
**Microprocessor and Data Representation**  

Unit 5  
**Semi Conductor Memories**  
Introduction – Registers – Primary memory – Mass storage, cache – off line backup – memory chips – static and dynamic RAMs, ROMs and their versions characteristics of memories: Memory chip capacity and organization – memory size – combining the chips together with example electrical signals. Static RAM: Organisation of 6264 – Read and write cycle of 6264 – dynamic RAMS: Organisation of 51100 x – Read and write cycle of 51100 x RAS only fresh hidden fresh – Burst and distributed i.e., fresh – pseudo static ram and automatic refresh.

**Books for Study:**  

**Books for Reference:**  
1. Integrated Electronics – Millmann & Halkeias  

**SEMESTER – VI**  
**ELECTIVE PAPER II – MATLAB**

**No. of Credit Hours: 4 Hours**

**Subject description:** MATLAB is an integrated technical computing environment that combines numerical computation, advanced graphics and visualization and a high level programming language.  
**Goal:** This paper helps the student to solve scientific and numerical problems in an easy and quicker way.

**UNIT I**  
Creating a one dimensional array - Creating a two dimensional array – zeros, ones and eye commands – Transpose operator - Array addressing - adding elements to a matrix – deleting elements – Built – in – functions in handling arrays.
UNIT II  
(12hrs)
Mathematical operations with arrays: array addition and subtraction – Array Multiplication – array division – element – by – element operations – Relational operations – Logical operations
Trigonometric and exponential functions – character strings - Command line functions, Inline functions – Anonymous functions - Programs.

UNIT III  
(12hrs)
Script files: Creating and saving a script file – Running a script file – input to a script file – output commands – disp command – fprintf command
Creating a Function File – function definition line – input and output arguments – Local and Global variables – saving a function file

UNIT IV  
(12 hrs)
Conditional statements: if … end structure – if .. else … end structure – if .. elseif .. else … end structure – switch – case statement –
Loops: for …end loops – while .. end loops - Nested loops and nested conditional statements – break and continue commands.

UNIT V  
(12hrs)
Two dimensional plots: Plot command line specifiers – Property name and Property value – fplot command
Plotting multiple graphs in the same plot – Formatting a plot: x label, y label, title, legends, text – subscript and superscript - axis command – grid command – formatting a plot using the plot editor

Book for study:
MATLAB An introduction with Applications: Amos Gilat Wiley India Pvt Ltd, New Delhi

Books for reference:
2. MATLAB and its Applications in Engineering : Raj Kumar Bansal, Ashok Kumar Goel and Manoj Kumar Sharma, Published by Dorling Kindersley (India) Pvt Ltd..
SEMESTER – V ELECTIVE III - PRACTICAL
DIGITAL AND MICRO PROCESSOR
(EXAMINATION AT THE END OF SIXTH SEMESTER)

ANY TWELVE (12) EXPERIMENTS ONLY

1. Verification of Truth tables of IC gates: OR, AND, NOT, XOR, NOR and NAND.
2. NAND as universal building block- AND, OR, NOT.
3. Verification of De Morgan’s theorem.
5. Study of RS Flip-Flop.
7. Decade counter using 7490.
8. Half adder.
11. 4 BIT – Binary Adder & Subtractor using 7483.
12. Code converter (Binary to gray and vice versa) & Seven segment Decoder.
14. Parity check logic.
15. Up/Down Counter using 74190.
16. 8085 ALP for 8 bit Addition and Subtraction.
17. 8085 ALP for One’s Complement, Masking off most significant 4 bits and setting bits.
18. 8085 ALP for Two’s compliment Addition and Subtraction.
19. 8085 ALP for 8 Bit Multiplication and Division.
20. 8085 ALP for finding the Biggest number element in the array and Sum of the elements in the Array.