Chhattisgarh Swami Vivekanand Technical University, Bhilai

Scheme of teaching and examination

B.E. III Semester Computer Science & Engineering

S.No	Board of Study	Subject Code	Subject Name	Periods per week			Scheme of exam Theory/Practical			Total Marks	Credit L+ (T+P)/2
				L	T	P	ESE	CT	TA		
1	Appl. Mathematics	322311 (14)	Mathematics-III	4	1	-	80	20	20	120	5
2	Electronics & Telecom.	328313(28)	Basic Electronics	3	1		80	20	20	120	4
3	Electronics & Telecom.	328314(28)	Network Analysis and Synthesis	3	1		80	20	20	120	4
4	Comp Science & Engg	322315(22)	Problem Solving and Logic Building using C	3	1		80	20	20	120	4
5	Comp Science & Engg	322312(22)	Computer Fundamentals	3	1		80	20	20	120	4
6	Info. Technology	333312(33)	Digital Electronics & Logic Design	3	1		80	20	20	120	4
7	Electronics & Telecom.	328322(28)	Basic Electronics Lab			3	40		20	60	2
8	Comp Science & Engg	322322(22)	Programming with C Lab			3	40		20	60	2
9	Info. Technology	333323(33)	Digital Electronics & Logic Design Lab			3	40		20	60	2
10	Comp Science & Engg	322324(22)	Web Technology Lab (HTML/DHTML)			3	40		20	60	2
11	Humanities etc.	300325(46)	Value Education			2			40	40	1
12			Library			1					
			TOTAL	**19**	**6**	**15**	**640**	**120**	**240**	**1000**	**34**

L-Lecture, T- Tutorial, P- Practical, ESE- End Semester Examination, CT- Class Test,TA- Teacher's Assessment

Note : Duration of all theory papers will be of **Three Hours.**

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY, BHILAI

Semester: **B.E. 3rd Sem.** Branch: **Computer Science Engineering & IT**
Subject: **MATHEMATICS-III** Code: 322311 (14)
Total Theory Periods: **40** Total Tutorial Periods: **10**
Total Marks in End Semester Exam. : **80**
Minimum number of class test to be conducted: **02**

UNIT - 1 FOURIER SERIES (No. of periods 8+2)

Expansion of function as Fourier series, Change of interval, Even and odd functions, Half-range Fourier series, Practical harmonic analysis.

UNIT – 2 LAPLACE TRANSFORM (No. of periods 8+2)

Laplace transform of elementary functions, Properties of Laplace transform, Laplace transform of derivatives and integrals, multiplication by t^n and division by t, Laplace transform of periodic functions. Inverse Laplace transform, Convolution theorem, Application of Laplace transform to solutions of ordinary differential equations.

UNIT - 3 THEORY OF COMPLEX VARIABLES (No. of periods 8+2)

Limit, Derivative and Analytic functions; Cauchy-Riemann equations and its applications to flow problems; Complex Integration: Line and Contour integral, Cauchy integral theorem and Integral formula; Taylor series, Laurent series; singularities; Poles and their orders and residues; Evaluation of real definite integrals.

UNIT - 4 PARTIAL DIFFERENTIAL EQUATION (No. of periods 8+2)

Formation of partial differential equations, Equations solvable by direct integration, Lagrange's linear equations, Homogeneous linear differential equations with constant coefficients, Non-homogeneous linear equations, Solution of partial differential equations by the method of separation of variables.

UNIT - 5 RANDOM VARIABLES (No. of periods 8+2)

Discrete and continuous probability distributions, Mathematical expectation, Mean and Variance, Moments, Moment generating function, probability distribution, Binomial, Poisson and Normal distributions.

TEXT BOOKS: -

1. Higher Engg. Mathematics by Dr. B.S. Grewal– Khanna Publishers.
2. Advanced Engg. Mathematics by Erwin Kreyszig – John Wiley & Sons.

REFERENCE BOOKS: -

1. Advanced Engg.Mathematics by R.K. Jain and S.R.K. Iyengar – Narosa Publishing House.
2. Applied Mathematics by P.N.Wartikar & J.N. Wartikar. Vol- II– Pune Vidyarthi Griha Prakashan, Pune.
3. Applied Mathematics for Engineers & Physicists by Louis A. Pipes- TMH.

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY
BHILAI (C.G.)

Semester : **III**
Branch: **Computer Science Engineering & Engg**
Subject: **Basic Electronics**
Code: **328313 (28)**
Total Theory Periods: **40**
Total Tutorial Periods: **10**
Total Marks in End Semester Examination: **80**
Minimum number of Class tests to be conducted: **Two**

Unit – I

Introduction, Transport Phenomena in semiconductor, Formation of P-N Junction, Properties of P-N Junction, P-N Junction Diodes; Semiconductor Diodes, V-I Characteristics, Effect of Temperature on V-I Characteristics, Ideal Diode, Diode equation, Diode Resistance, Diode Capacitance: Transition and Diffusion Capacitance.

Unit – II

Rectifying circuits and DC Power Supplies: Load line analysis of diode circuit, Half wave rectifier: Voltage regulation, Ripple factor, ratio of rectification, Transformer Utilization factor. Full wave rectifier, Bridge rectifier. Filter circuits for power supply: Inductor filter, Capacitor filter, LC filter, Multiple LC filter, CLC or π filter. Zener diode: Break down mechanism, Characteristics, Specifications, Voltage regulator circuit using zener diode.

Unit - III

Transistor: Introduction, Construction, Types: npn and pnp, Current components. Transistor as an amplifier, Transistor Characteristics, Transistor Circuit Configuration: Common Base (CB) Configuration, Common Emitter (CE) Configuration, Common Collector Configuration (CC), Early Effect. Ebers-Moll Model, Maximum Voltage Ratings.

Unit – IV

Transistor Biasing and Thermal stabilization: The operating point, Bias stability, Stability factor, Emitter bias, Collector – to – base bias, Voltage divider bias with emitter bias, Emitter bypass capacitor. Bias compensation.

Unit – V

Field Effect Transistor (FET): Introduction, Construction, Operation, V-I Characteristics, Transfer Characteristics, Drain Characteristics, Small-Signal Model.

Metal Oxide Semiconductor Field Effect Transistor (MOSFET): Introduction, Construction, Operation and characteristics, Depletion MOSFET, Enhancement MOSFET.

Name of Text Books:

1. Integrated Electronics: Analog & Digital Circuit Systems – Jacob Millman & Halkias, TMH.
2. Electronic Devices & Circuits – Allen Mottershead, PHI.

Name of Reference Books:

1. Electronic Devices and Circuit Theory – Boylestad & Nashelsky, 8th Ed. PHI.
   Electronic Devices & Circuit Analysis – K. Lal Kishore, BS Publications

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY
BHILAI (C.G.)

Semester : **III** Branch: **Computer Science & Engineering**
Subject: **Network Analysis & Synthesis** Code: **328314 (28)**
Total Theory Periods: **40** Total Tutorial Periods: **10**
Total Marks in End Semester Examination: **80**
Minimum number of Class tests to be conducted: **Two**

Unit – I
Laplace Transformation & its Application in Circuit Analysis: Introduction, Laplace Transformation, Laplace Transform of a Derivative df(t) /dt, Laplace Transform of an Integral, Laplace Transform of Common Forcing Function, Initial And Final Value Theorem, Convolution, Application of Laplace Transformation technique in Electric Circuit Analysis, Partial Fraction Expansion Method, Step Response of RL, RC Circuits, Impulse Response of Series RC, RL Network, Response of RL Circuit with Pulse Input, Pulse Response of Series RC Circuit, Step Response of RLC Series Circuit.

Unit – II
Two Port Network Analysis: Introduction, z parameters, y- parameters, hybrid parameter, ABCD parameters, condition of reciprocity and symmetry in two port parameter presentation. Interrelationship between parameters of two port networks. Expression of input and output impedance in terms of two port parameter, ladder network, equivalent T and π section representation in parametric form.

Unit – III
Properties of Network function: Introduction, Driving Point Impedance and Admittance Transfer function, Voltage And Current Transfer Ratio. Thevenin's and Norton Theorem, Milliman Theorem, Reciprocity Theorem, Maximum Power Transfer Theorem, Supeposition Theorem, Substitution Theorem.

Unit – IV
Network Graph Theory: Introduction, Concept of Network Graph, Terminology Used in Network Graph, Properties of Tree in a Graph, Formation of Incidence Matrix, Properties of Incidence Matrix, Number of Tree in a Graph, Cut Set Matrix, Tieset Matrix, Fundamental Tieset Matrix, Fundamental Cutset Matrix.

Unit –V
Synthesis of Passive Networks: Concept of Stability of a System from Pole Zero Concept, Necessary condition of Stability of a Network Function, Hurwitz Polynomial, Properties of Hurwitz Polynomials, Positive Real Function, Concept of Network Synthesis, Reactive Network, Driving Point Immitance of LC Network, LC Network Synthesis, Foster and Caurr form, RC and RL Network Synthesis By Foster and Caurr form.

Name of Text Books:

1. Network Analysis by M.E. Van Valkenbarg, PHI
2. Circuit Theory Analysis & Synthesis by A Chakraborty (Dhanpat Rai & Co. Pvt. Ltd, New Delhi)

Name of Reference Books:

1. Network Theory: Analysis & Synthesis – Smarjit Ghosh, PHI
2. Network Synthesis – T. Lapatra, TMH.
   Circuits and Networks: Analysis and Synthesis – A. Sudhakar & Shyam Mohan S. Palli, TMH

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY, BHILAI (C.G.)

Semester: III Semester **Branch: Computer Science & Engineering**
Subject: Problem Solving and Logic Building using C **Code: 322311(22)**
Total Theory Periods: 40 **Total Tut. Periods: 10**
Total Marks in End Semester Exam: 80
Minimum number of class tests to be conducted: 02

Unit-I Elements of C Language
Origin of C, Features & Characteristic of C, C Compiler, Character Set, Keywords, Identifiers, Constants, Variables, Input/ Output Statements, Basic Data Types, Operators and Expressions, Tools for Problem Solving: Problem Analysis, Flowchart, Algorithm Development. Top-Down Program Design, Structured Design Approach, Basic structure of C programs, A simple C Program.

Unit-2 Control Flow Construction

Decision making and branching: Simple if statement, if else statement, Nesting of if.. else statement, else.. if Ladder, switch statement, ?: operator, goto statement.
Decision making and looping: while statement, do .. while statement, for statement, jumps in loops, break and continue statement.

Unit-3 Defining and Manipulating Arrays
One- Dimensional Arrays: Declaration of Arrays, Initialization of Arrays, Reading and Writing of integer, real and character arrays, Sorting and Searching in Arrays, Multi-Dimensional Arrays, Handling of Character Strings.

Unit-4 User Defined Functions
Syntax of Function, Calling functions, Actual & Formal Arguments, Categories of Functions, Function prototype, Scope Rules: Local & Global variables, Recursion, Recursion vs. iteration, Passing Arguments: call by values & call by reference, Passing array to function.
Structures: Declaration and initialization of structures, Array of structures, Array within structure, structure within structure, Structures and functions, Introduction to unions.

Unit-5 Pointer Data type and its Application
Pointer Operator, Pointer Expression, Initializating pointers, Pointer Arithmetic, Pointer and Function Arguments, Pointer to function, Pointer and Arrays, Pointers and String, Arrays of Pointers, Pointers to Pointers.
Files in C: Defining and opening a file, closing a file, input/ Output operations on files, error handling during I/O operations, random access to files.

Name of Text Books:
1. Programming in C by Byron Gottfrid.(Schoum's series outline TMH)
2. Programming in C By E. Balagurusamy (TMH)

Name of Reference Books:
1. The C programming Language by Dennis M Ritchie and Kernighan (PHI)
2. Let us C by Yashwant Kanetkar (BPB Publication)
3. C for all by S. Thamarai Selvin & R. Murugesan (Anuradha Agencies)
4. Programming in C by Ghosh (PHI)
5. Computer Programming in C by V. Rajaraman (PHI)

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY , BHILAI (C.G.)

Semester: III **Branch: Computer Sc. & Engg.**
Subject: Computer Fundamentals **Code: 322312 (22)**
Total Theory Periods: 40 **Total Tut Periods: 10**
Total Marks in End Semester Exam: 80
Maximum number of Class Tests to be conducted: 2

Unit 1: **COMPUTER BASICS**

Computer Generations and Classification, Algorithms, Characteristics of Computers, Input/Output Units, Description of a processor, Computer Languages (Machine, Assembly, High Level), Introduction of Operating System (Functions of Operating System, Single User, Multi-user operating sysems), Introduction to systems software.

Unit 2: **NETWORK & GRAPHICS**

- Introduction of computer networks - LAN, MAN, WAN, Internet & Intranet, Different layers of networks, Distributed and Centralised network, Broad Band ISDN.
- Computer graphics: Definition, classification and Applications, Refresh Cathode ray tubes, Random Scan and Roster Scan devices, Scanner and Plotters, Animation.
- Multimedia: Overview of Multimedia, properties of multimedia, Asynchronous, Synchoroous and Isochronous, Transmission Mode, different storage media-CDROM, CD-writer, HDD, Sound and audio technology.

Unit 3: **DATA REPRESENTATION**

Data Types, Complements, Fixed-Point Representation, Floating- Point Representation, Other Binary Codes, Error Detection Codes, Parity Checking Codes, Hamming Codes, CRC, Reflected Codes.

Unit 4: **REGISTER TRANSFER AND MICROOPERATIONS**

Register Transfer Language, Register Transfer, Bus and Memory Transfers, Arithmetic Microoperations, Logic Microoperations, Shift Microoperations, Arithmetic Logic Shift Unit

Unit 5: **BASIC COMPUTER ORGANIZATION AND DESIGN**

Instruction Codes, Computer Registers, Computer Instructions, Timing and Control, Instruction Cycle, Memory-Reference Instructions, Input-Output and Interrupt, Complete Computer Description, Design of Basic Computer, Design of Accumulator Logic

Name of Text Books:

1. Computer Systems Architecture - M. Morris Mano, Prentice-Hall of India
2 Fundamentals of Computer, V. Rajaraman, Prentice-Hall of India

Name of reference Books:

1. Computer Organization and Design- P. Pal Chaudhari, Prentice-Hall of India
2. Computer Organization and Architecture- William Stallings, Prentice-Hall of India
3. Computer Architecture and organization – John P Hayes, McGraw Hill Publication
4. Computers Today, Suresh K Basandra, Galgotia Publication
5. Architecture of Computer Hardware and System Software: An Information Technology Approach, 3rd Edition (Illustrated) – Iry Englander, John Wiley & Sons Inc

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY, BHILAI (C.G.)

Semster : III Sem **Branch : Computer science and Engineering**

Subject : Digital Electronics and Logic Design **Code : 333312(33)**

Total Theory Periods : 40 **Total Tutorial Periods : 10**

Total Marks in end semester examination : 80

Minimum number of class tests to be conducted : 02

UNIT-I

Overview of Boolean Algebra AND Logic Gates : Number Systems and Codes, Binary Arithmatic, Boolean Algebra, Minimisation of Switching Function , Demorgan's Theorem, Karnaugh's Map Method (limited up to 4-variables), Quine McCluskey's Method , Cases with Don't care conditions and multiple output switching functions.

UNIT-II

Combinational Circuits : NAND / NOR gates , Realisation of switching functions , Half/full adders, Half / full substractors , Series and parallel additions ,BCD adders ,Look ahead carry generators ,Decoders and encoders ,BCD to 7 segment decoders, Multiplexers and Demultiplexers, Parity bit generator and detector , Error detection.

UNIT-III

Sequential Circuits : Introduction to registers and Counters **:** Flip-Flops and their conversion, Excitation Tables, Synchronous and Asynchronous counters and Designing of sequential circuits: code converter and counters. Mode-k and divide by K Counters, Counter Applications.

UNIT-IV

Logic Families: RTL, DTL, all types of TTL circuits, ECL, Circuit, Operation & Features of I^2 L and PMOS, NMOS and CMOS logic etc.

UNIT-V

Memories and Converters : Introduction to various semiconductor memories and designing of ROM and PLA , Introduction to analog to digital and digital to analog converters and their types (R-2R ladder network and successive approximation converters)

Name of Text Books

1. W H Gothman , " Digital Electronics" PHI
2. R. P. Jain : "Modern Digital electronics", TMH

Name of Reference Books :

1. R J Tocci, " Digital System principles and Applications"
2. Millman Taub , " Pulse , Digital and Switching Waveforms " TMH
3. M.M. Mano : "Digital logic and computer design", PHI.
4. Floyd : "Digital fundamentals", UBS.
5. B. Somanathan Nair, "Digital eletronics & Logic Design", Prentice-Hall of India

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY
BHILAI (C.G.)

Semester : **III** Branch: **Computer Science & Engineering**
Subject: **Basic Electronics Lab** Code: **328322 (28)**
Total Practical Periods: **36**
Total Marks in End Semester Examination: 4**0**

Experiments to be performed (minimum 10 experiments)

1. To draw the characteristics of a semi conductor diode and to find cut-in voltage, reverse resistance, static resistance and dynamic resistance.
2. To draw the characteristics of a zener diode
3. To design a half wave rectifier and to determine its efficiency and ripple factor.
4. To design a- full wave rectifier and determine the ripple factor and efficiency with filter.
5. To design a- full wave rectifier and determine the ripple factor and efficiency without filter.
6. To draw the characteristics of FET using BFW – 10
7. To draw the characteristics of CE configuration of a transistor amplifier.
8. To draw the characteristics of CB configuration of a transistor amplifier.
9. To draw the characteristics of CC configuration of a transistor amplifier.
10. To design a Zener regulator circuit and to find the regulation characteristics.
11. To draw the load line of a transistor amplifier under CE configuration.
12. To design and verify the self bias circuit operation.
13. To design and verify the voltage divider biasing circuit.
14. To verify the effect of emitter bypass capacitor.
15. To design a regulator circuit using Zener diode.

List of Equipments/Machine Required:
Circuit components, Breadboard, Hook-up wire, Power supply, CRO, Function generator

Recommended Books:
1. Laboratory Manual for Electronic Devices and Circuits, 4th Ed., David A. Bell, PHI

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY,
BHILAI (C.G.)

Semester: III **Branch: Computer Science & Engineering**
Subject: Programming with C Lab **Practical Code : 322322(22)**
Total practical Periods: 36
Total Marks in End Semester Exam: 40

List of programmes to be executed (but should not be less than 10) :

1. Write a program to take the radius of a sphere as input and print the volume and surface and surface area of that sphere.
2. Write a program to take a 5-digit number as input and calculate the sum of its digits.
3. Write a program to take three sides of a triangle as input and verify whether the triangle is an isosceles, scalene or an equilateral triangle.
4. Write a program that will take 3 positive integers as input and verify whether or not they form a Pythagorean triplet or not.
5. Write a program to print all the Prime numbers between a given range.
6. Write a program to define a function that will take an integer as argument and return the sum of digits of that integer
7. Write a program to define a macro that can calculate the greater of two of its arguments. Use this macro to calculate the greatest of 4 integers.
8. Write a program to define a recursive function that will print the reverse of its integer argument.
9. Write a program to print the sum of first N even numbers using recursive function.
10. Write a program to sort an array using Bubble sort technique.
11. Write a program that will take the elements of two integer arrays of 5 element each, and insert the common elements of both the array into a third array (Set intersection)
12. Write a program to take 5 names as input and print the longest name.
13. Write a program to define a structure Student that will contain the roll number, name and total marks of a student. The program will ask the user to input the details of 5 students and print the details of all the students whose total marks is greater than a given value.
14. Write a program to define a union Contact that will contain the members Mobile no and E-mail id. Now define a structure Employee that will contain name, roll number, mode of contact (mob/e-mail) and a variable of type Contact as members. The program will ask the user to give the details of two Employees including mode of contact and the contact num/ E-mail. Print the details of both the Employees.
15. Write a program that will ask the user to input a file name and copy the contents of that file into another file.
16. Write a program that will take any number of integers from the command line as argument and print the sum of all those integers.
17. Write a program to process sequential file for payroll data.
18. Write a program to process random file of library data.

List of Equipments/Machine Required:
PCs, C-Compiler

Recommended Books:
Programming in ANSI C – E. Balaguruswamy Tata Mc-Gcraw Hill

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY, BHILAI (C.G.)

Semster : III Sem **Branch : Computer Science and Engg.**

Subject : Digital Electronics and Logic Design Lab **Code : 333323(33)**

Total Lab : 36

Total Marks in end sem examinations : 40

Experiments To Be Performed (minimum 10 experiments)

1) To study the characteristics and operations of TTL Inverters, OR, AND, NOR and NAND gate using ICs.
2) To study NAND and NOR gates as a universal logic.
3) To study and prove Demorgan's Theorem .
4) To design Half and Full adder circuits using logic gates.
5) To design Half and full subtractor circuits using logic gates.
6) To study the binary parallel adder.
7) To design 4 bit magnitude comparator circuits.
8) To study the 7 segment decoder .
9) To design 4:16 decoder using two 3:8 decoder and four 2:4 decoder
10) To design 16: 1 Multiplexer using 4:1 Multiplexer.
11) To study various types of flip flops using logic gates and ICs.
12) To design Mode-N and divide by K counter.
13) To construct a 4 bit binary to gray converter and vice versa using IC 7486 .
14) To study Up-Down counter .
15) To study programmable shift registers.

List of Equipments /Machine Required:

1) Logic gate trainer
2) Digital ICs Trainer
3) Various ICs 7400,7402,7404,7408,7432,7486,74138,74151,74155 etc.

Recommended Books:

1) M.M. Mano : "Digital logic and computer design", PHI.
2)Floyd : "Digital fundamentals",UBS.

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY, BHILAI (C.G.)

Semester: III **Branch: Computer Sc. & Engg.**

Subject: Web Technology Lab (HTML/DHTML) **Code: 322324 (22)**

Total practical Periods : 36

Total Marks in End Semester Exam : 40

EXPERIMENTS TO BE PERFORMED (minimum 10 experiments)

1. Design a HTML page describing your profile in one paragraph. Design in such a way that it has a heading, a horizontal rule, three links and your photo also write three HTML documents for the links
2. Design HTML page describing your academic career. The page will tell about the degrees, Institutions and your hobbies. Add some lists too
3. Design HTML page demonstrating Concept Of Internal Hyper-link
4. Design HTML page which gives the list of grocery Items by using Ordered List , List consist of Roman no, A,B…. and so on
5. Design HTML page which gives the list of grocery Items by using Unordered List bullets are of form disc, square and circle
6. Design a HTML page for partitioning browser window in frames display the different pages in partitioned windows
7. Design HTML page to partition window, Design in such a way that link clicked in on page can display the corresponding pages in other window
8. Design a HTML page on your native place
9. Design a HTML page on your friends. List your friends; each friends name is a link. Prepare separate HTML document on each friend and call them in appropriate link
10. Design HTML page listing popular car companies. For each company prepare a sub list showing various brands of cars it offers
11. Design a HTML page for reserving a room in a Hotel
12. Design a HTML form to reserve a Railway ticket
13. Design a HTML form to see the result for a candidate when the results are published on the web
14. Design a HTML form to find the railway fare from one place to another
15. Design a HTML form to find out the balance for a mobile phone customer as on today

List of equipments/Machine required:

Pentium 3 (min)
Windows 98 (min) with Internet Explorer
Netscape Navigator
Web Browser

Recommended Books:

1. HTML Complete Reference- Tata McGraw hil**l**
2. HTML and XML: An Introduction NIIT, Prentice-Hall of India
3. Building Enhanced HTML Help with DHTML and CSS by Jeannine M.E.Klien. Pearson Education
4. HTML for the World Wide Web, Fifth Edition, with XHTML and CSS
5. Visual QuickStart Guide 5th Edition Elizabeth Castro, Pearson EducationSams Teach Yourself HTML & XHTML in 24 Hours 6th Edition Dick Oliver, Michael Morrison, Pearson Education

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY, BHILAI

Semester : B.E. 3rd Sem. Branch : Common to all Branches
Subject : **Value Education** Code : 300325(46)
No. of Periods : 2 pds/week Tutorial Periods : NIL
Total Marks in End Semester Exam. : NIL Teacher's Assessment : 40 Mks
Minimum number of class test to be conducted : Two

Unit – I

- **STUDY OF BASIC HUMAN OBJECTIVES :** Everlasting solution (समाधान), prosperity (समृद्धि), trust in self and others (अभय), and coexistence (सहअस्तित्व) for balance in nature. Need and importance of aforesaid basic human objectives and how to achieve these.

Unit – II

- **CONCEPT AND UNDERSTANDING OF HUMAN HAPPINESS**
  Meaning and concept of "happiness", incessant happiness, its relationship with gaurantee of physical needs, comforts, physical and sensory pleasures with its transient nature, misery; The only method to minimize incessant happiness : gaining right understanding about oneself, one's body, one's relationship with other human beings, Nature and total existence.

Unit – III

- **PROPER UNDERSTANDING** about the order in Nature (व्यवस्था) and co-existence (सहअस्तित्व) at various levels, such as, I and my body, family, society, Nature and existence.
- **UNDERSTANDING THE SELF**: Understanding human reality – I and my body, present understanding of the self, physical needs, relation with others and with Nature, gaining proper understanding of the self, discrimination between 'I' and my 'body', characteristics and the needs of 'I', of my 'body' and 'body' & 'I'.

Unit – IV

- **SYNERGATIC ORDER (व्यवस्था) and COEXISTENCE (सहअस्तित्व) among HUMANS, IN NATURE & IN EXISTENCE** :

- Conceptual understanding of natural relations and consequent values, of family and relation therein, of society and role of engineers therein,overall excellence' : concept, its universal parameters and total human behaviour
- Inanimate (जड़) and consciousness (चैतन्य) aspects of Nature, Four distinct synergetic orders in Nature - Padaarth Awastha (पदार्थ अवस्था), Pran Awastha (प्राण अवस्था), Jiv Awastha (जीव अवस्था), and Gyan Awastha (ज्ञान अवस्था), complementary supplementary evolutionary connection amongst above orders, identifying and implementing "Appropriate Technology".
- Synergetic order among interacting entities of Nature operating in all pervading changeless Shunya or Satta, Indivisible interconnectedness of Satta and Prakriti and its implications.

Unit – V

- **IMPLICATIONS OF PROPER UNDERSTANDING**

- Awakening (जागृति), the common goal of all human beings,
- promotion and perseverance of synergetic order and co-existence at all levels leading to incessant happiness.
- Natural manifestation of universal human values and thereby incessant happiness
- Undivided Society (अविभाज्य समाज) and Universal Organised System (सार्वभौम व्यवस्था)
- Transition from synergetic disorder (अव्यवस्था) to synergetic order (व्यवस्था)
- Evaluation of Understanding, work and behaviour.

REFERENCES

1. Jeevan Vidya Camp (शिविर) notes
2. An Introduction to Jeevan Vidya by Shri A. Nagaraj

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