Faculty of Engineering and Technology
P.K.University
Shivpuri (MP)

**Evaluation Scheme & Syllabus for
Department of Computer Science Engineering & IT**

Diploma in Information Technology

I Year: I & II Semester

(Effective from session 2019-20)

(Taken From Board of Technical Education- B.T.E)

Department of Computer Science Engineering &IT
(Faculty of Engineering and Technology)
P.K. University, Shivpuri (M.P)

EVALUATION SCHEME

SEMESTER I						
		THEORY		PRACTICAL		TOTAL
SUBJECT CODE	SUBJECT NAME	SESS.(30)	EXT.(70)	INT.(25)	EXT.(25)	
DIT-101	Professional Communication	30	70	25	25	150
DIT-102	Applied Mathematics-I(A)	30	70	NA	NA	100
DIT-103	Applied Physics	30	70	NA	NA	100
DIT-104	Applied Chemistry	30	70	NA	NA	100
DIT-105	Component of Information Technology	30	70	NA	NA	100

SEMESTER II						
		THEORY		PRACTICAL		TOTAL
SUBJECT CODE	SUBJECT NAME	SESS.(30)	EXT.(70)	INT.(25)	EXT.(25)	
DIT-201	Applied Mathematics-I(B)	30	70	NA	NA	100
DIT-202	Applied Physics-II	30	70	25	25	150
DIT-203	Electrical Engineering-I	30	70	25	25	150
DIT-204	Engineering Mechanics & Material	30	70	NA	NA	100
DIT-205	Operating System	30	70	25	25	150
DIT-206	Fundamental of Electronics Devices	30	70	25	25	150

Department of Computer Science Engineering &IT
(Faculty of Engineering and Technology)
P.K. University, Shivpuri (M.P)
I Year I Semester
DIT-101 PROFESSIONAL COMMUNICATION

COMMUNICATION IN ENGLISH (PART I)

1.1: Concept of communication, importance of effective communication, types of communication, formal, informal, verbal and nonverbal, spoken and written. Techniques of communication, Listening, reading, writing and speaking, Barriers in communication, Modern tools of communication-Fax, e-mail, Telephone, telegram, etc.

1.2: Technical communication Vs. General Communication: Development of comprehension and knowledge of English through the study of text material and language exercises based on the prescribed text book of English.

1.3: Development of expression through:

i. Business and personal correspondence (Letters):

ii. Kinds of letters:- Official, demi-official, unofficial , for reply or in reply, quotation, tender and order giving letters. Application for a job, Resume.1 Paragraph writing, Essay writing, Proposal writing.
iii. Functional Grammar: Study of sentences and parts of speech (Word Class), Preposition, Verb, Articles, Abbreviations
iv. Vocabulary Building: Homophones, One word substitution.
v. Idioms and Phrases. , Composition on narrative, descriptive, Argumentative, Discussion and factual topics.

COMMUNICATION IN HINDI (PART II)

i.   Development of comprehension and knowledge of Hindi usage through rapid readin and language   exercises based on prescribed text material developed by IRDT .
ii.   Development of expression through Letter writing in Hindi:
Kinds of letters:- Official, demi- official, unofficial , for reply or in reply, quotation, tender and order giving letters, Application for a job, Press release in Hindi, Report writing.

REFERENCE BOOKS

1. Bookshelf worksheet of Professional Communication, New Delhi : Bookshelf 2008
2. Functional Skills in language and literature by R. P. Singh, New Delhi : Oxford University Press.
3. Oxford English Hindi English Dictionary, New Delhi : Oxford 2008

DIT-101 LANGUAGE LAB PRACTICE

1. For the practice/exercise the following is suggested:-

A. Phonetic transcription

B. Stress and intonation   :

(At least 10 word for writing and 10 word for pronunciation)

2. ASSIGNMENT: (Written Communication)
Two assignments of approximately 400 word each

decided by the teacher concerned.

The Following Model is proposed:

    i.   a picture/photograph

    ii.   an opening sentence or phrase

    iii.   a newspaper/magazine clipping or report

    iv.   factual writing which should be informative or argumentative

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I Year I Semester

DIT-102 APPLIED MATHEMATICS I(A)

Unit –I Algebra-I :

1.1 Series : AP and GP; Sum, nth term, Mean

1.2 Binomial theorem for positive, negative and fractional index (without proof). Application of Binomial theorem.

1.3 Determinants : Elementary properties of determinant of order 2 and 3, Multiplication system of algebraic equation, Consistency of equation, Crammer's rule

Unit –II Algebra-II:

2.1 Vector algebra: Dot and Cross product, Scaler and vector   triple product.

2.2 Complex number : Complex numbers, Representation, Modulus and amplitude Demoivre theorem, its application in solving algebraic   equations, Mod. Function and its properties.

Unit –III Trigonometry:

3.1 Relation between sides and angles of a triangle : Statement   of various formulae showing relationship between sides and angle of a triangle.

 3.2 Inverse circular functions : Simple case only

Unit –IV Differential Calculus - I

4.1 Functions, limits, continuity, - functions and their graphs, range and domain, elementary methods of finding limits (right and left), elementary test for continuity and differentiability.

4.2 Methods of finding derivative, - Function of a function, Logaritimic differentiation, Differentiation of implicit   functions.

Unit -V

5.   Differential Calculus -II :

5.1 Higher order derivatives, Leibnitz theorem.

5.2 Special functions (Exponential, Logarithmic, Inverse circular and function), Definition, Graphs, range and Domain and Derivations of each of these functions.

5.3 Application - Finding Tangants, Normal, Points of Maxima/Minima, Increasing/Decreasing functions,   Rate, Measure, velocity, Acceleration, Errors and approximation.

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I Year I Semester
DIT-103: APPLIED PHYSICS-I

Unit -I
1. Units And Dimensions: S.I. Units & Dimensions of physical quantities, Dimensional formula and dimensional equation.   Principle of homogeneity of dimensions and applications of homogeneity principle to: (i) Checking the correctness of physical equations,   (ii) Deriving relations among various physical quantities,(iii) Conversion of numerical values of physical quantitiesFrom one system of units into another. Limitations of dimensional analysis.

Unit -II
2. Errors And Measurement Errors in measurements, accuracy and precision, random and systematic errors, estimation of probable errors in the results of measurement(Combination of errors in addition, subtraction,   multiplication   and   powers).   Significant figures, and order of accuracy in respect to instruments,

Circular Motion : Central forces. Uniform Circular motion (Horizontal and Vertical cases),angular velocity, angular acceleration and centripetal acceleration. Relationship between linear and angular velocity and   acceleration. Centripetal and centrifugal forces. Practical applications of centripetal forces.   Principle of centrifuge.

Unit -III
Motion Of Planets And Satellites **:** Gravitational force, Acceleration due to gravity and its variation w..r. to height and depth from earth, Kapler's Law, Escape and orbital velocity, Time period of satellite, Geo- stationary, Polar satellites.

Dynamics Of Rigid Body (Rotational Motion) : Rigid body, Rotational motion, Moment of inertia, Theorems(Perpendicular and Parallel axis) of moment of inertia (Statement). Expression of M.I. of regular bodies (Lamina, Sphere, Disc, Cylinder cal),Concept of Radius of gyration, angular momentum, Conservation of angular momentum,   Torque, Rotational kinetic energy. Rolling of sphere on the slant plane .Concept of Fly wheel.

Unit -IV
Fluid Mechanics : Surface tension, Capillary action and determination of surface tension from capillary rise method,   Equation of continuity ($A_1V_1=A_2V_2$), Bernoulli's theorem, and its application stream line and Turbulent flow,   Reynolds's number.

Friction : Introduction, Physical significance of friction, Advantage and disadvantage of friction and its role in every day life. Coefficients of static and dynamic friction and their measurements. Viscosity, coeff. of viscosity, & its determination by stake's method.

Unit -V
Harmonic Motion : Periodic Motion ,characteristics of simple harmonic motion; equation of S.H.M. and determination of velocity   and acceleration. Graphical representation. Spring-mass system. Simple pendulum. Derivation of its periodic time. Energy conservation in S.H.M.. Concept of phase, phase difference, Definition of free, forced, undammed and damped vibrations, Resonance and its sharpness, Q-factor.

Heat & Thermodynamics: Modes of heat transfer (Conduction, Convection and Radiation), coefficient of thermal conductivity Isothermal and adiabatic process. Zeros First, Second Law of Thermodynamics and Carnot cycle, Heat Engine (Concept Only).

Acoustics : Definition of pitch, loudness, quality and intensity ofsound waves. Echo, reverberation and reverberation time. Sabine's formula without Derivation. Control of reverberation time (problems on reverberation time). Acoustics of building defects and remedy.

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DIT-104 APPLIED CHEMISTRY

Unit -V
Atomic Structure : Basic concept of atomic structure, Matter wave concept, Quantum number, Heisenberg's Uncertainty Principle, Shapes of orbital's.

Chemical Bonding : Covalent bond, Ionic & Co-ordinate, Hydrogen bonding, Valence bond theory, Hybridization, VSEPR theory, Molecular orbital theory.

Classification Of Elements : Modern classification of elements (s,p,d and f block elements), Periodic properties : Ionization potential electro negativity, Electron affinity.

Electro Chemistry-I: Arrhenius Theory of electrolytic dissociation, Transport number, Electrolytic conductance, Ostwald dilution law. Concept of Acid and bases : Bronsted, Arrhenius and Lewis theory. Concept of pH and numericals. Buffer solutions, Indicators, Solubility product, Common ion effect with their application,

Unit -II
Electro Chemistry-II: Redox reactions, Electrode potential (Nernst Equation), Electro-chemical cell (Galvanic and Electrolytic). EMFof a cell and free energy change. Standard electrode potential, Electro chemical series and its application. Chemical and Electrochemical theory of corrosion, Galvenic Series. Prevention of corrosion by various method.

Chemical Kinetics : Law of mass action, order and molecularity of reaction. Activation energy, rate constants, Ist order reactions and 2nd order reactions.

Catalysis : Definition Characteristics of catalytic reactions, Catalytic promoters and poison , Autocatalysis and Negative catalysis, Theory of catalysis, Application.

Solid State : Types of solids (Amorphous and Crystalline), Classification (Molecular, Ionic, Covalent, Metallic), Band theory of solids (Conductors, Semiconductors and Insulators), types of Crystals, FCC, BCC, Crystal imperfection.

Unit -III
Fuels: Definition, its classification, high & low Calorific value. Determination of calorific value of solid and liquid fuels by Bomb calorimeter.

Liquid fuel - Petroleum and its refining, distillate of petroleum (Kerosene oil, Diesel and Petrol), Benzol and Power alchol. Knocking, Anti-knocking agents, Octane number and Cetane number.

Cracking and its type, Gasoling from hydrogenation of coal (Bergius process and Fischer tropsch's process)

Gaseous Fuel - Coal gas, Oil gas, Water gas, Producer gas, Bio gas, LPG and CNG.

Numerical Problems based on topics

Water Treatment : Hardness of water, Its limits and determination of hardness of water by EDTA method. Softening methods (Only Sods lime, Zeolote and Ion exchange resin process). Disadvantage of hard water in different industries, scale and sludge formation, Corrosion, Caustic embritlement, primming and foarming in biolers.

Disinfecting of Water by Chloramine-T, Ozone and Chlorine. Advantage and disadvantage of chlorinational, Industrial waste and sewage, Municipality waste water treatment, Definition of BOD and COD. Numerical Problems based on topics.

Unit –IV Colloidal State Of Matter: Concept of colloidal and its types, Different system of colloids, Dispersed phase and dispersion medium. Methods of preparation of colloidal solutions, Dialysis and electro dialysis. Properties of colloidal solution with special reference to absorption, Brownian Movement, tyndal effect, Electro phoresis and coagulation. relative stability of hydrophillic and hydrophobie colloids. Protection and protective colloids. Emulsion, Types, preparation, properties and uses. Application of colloids chemistry in different industries.

Lubricants: Definition, classification, necessarily and various kinds of lubricants. Function and mechanism of action of lubricants and examples. Properties of lubricants, Importance of additive compunds in lubricants, Synthetic lubricants and cutting fluids. Industrial application, its function in bearing.

Unit –V **Hydrocarbons:**
   A. Classification and IUPA Cnomeuclature of organic compounds homologous
      series (Functional Group)
   B. Preparation, properties and uses of Ethane, Ethane, Ethane (Acetylene), Benzene
      and Toluene. Organic Reactions & Mechanism:

1. **Fundamental aspects -**
   A. Electrophiles and nucleophiles, Reaction Intermediates, Free radical,Carbocation,
      Carbanion
   B. Inductive effect, Mesomeric effect, Electrometric effect.

2. A. Mechanism of addition reaction (Markonicove's Rule, Cyanohydrin and Peroxide effect),
B. Mechanism of Substitution reactions; (Nucleophillic) hydrolysis of alkyle halide, electrophillic substitution halogenations, Sulphonation, Niration and friedel-Craft reaction.
C. Mechanism of Elimination reaction - Dehydration of primary alcohol, Dehyrohalogenation of primary alkyl halide.

Polymers:
1. Polymers and their classification. Average degree of polymerization, Average molecular weight, Free radical polymerization (Mechanisms)
2. Thermosetting and Thermoplastic resen -
   A. Addition polymers and their industrial application- Polystyrene, PVA, PVC, PAN, PMMA, Buna-S, Buna-N, Teflon.
   B. Condensation polymer and their industrial application: Nylon 6, Nylon 6,6, Bakelite, Melamine formaldehyde, Urea formaldehyde, Terylene or Decron, Polyurethanes.
3. General concept of Bio polymers, Biodegradable polymers and inorganic polymers (Silicon)

Synthetic materials:
A. Introduction - Fats and Oils
B. Saponification of fats and oils, Manufacturing of soap.
C. Synthetic detergents, types of detergents and its manufacturing.
D. EXPLOSIVES: TNT, RDX, Dynamite.
E. Paint and Varnish

DIT-105 COMPONENT OF INFORMATION TECHNOLOGY

Unit -I
Components of Information Technology: Components Hardware & its Functioning - Input Unit, Control Processing Unit, Output Unit, Types of Input Units & Output Units Computer Software - Types of Software, System Software, Application Software.

Unit -II
Data Presentation: Binary Number System, Conversion from Decimal to Binary, Conversion from Binary to Decimal, Hexadecimal and Octa decimal No. System, Memory Addressing and its Importance, ASCII and EBCDIC coding System

Unit -III
Emerging Trends in Information Technology: Concepts of Networking and Local Area Networking, Advanced Input/output Devices and their use(MICR, OCR, Scanners, Light pen,Plotters, Microfilms, Rewritable, CD-ROMS ,Multimedia, Video Conferencing, Tele Conferencing .

Unit –IV
Components of computer :Types of PC e.g. Desktops, Laptops, Notebooks, Palmtops Memory System of a PC, Primary Memory ,RAM(Ramdom Access Memory, ROM(read only Memory), Secondary Memory, Types of Secondary Storage, Access Mechanism of storage Devices, PC setup and ROM-BIOS, Elementary Trouble shooting

Unit –V
Mobile Computing: Introduction, Personnel Communication Services (PCS), Global System Mobile Communication (GSM), GPRS, Mobile Data Communication, WAP, 3G Mobile service

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I Year II Semester
DIT-201 APPLIED MATHEMATICS I (B)

Unit -I
Integral Calculus - I : Methods of Indefinite Integration :-
1.1 Integration by substitution.
1.2 Integration by rational function.
1.3 Integration by partial fraction.
1.4 Integration by parts.

Unit –II Integral Calculus -II :
2.1 Meaning and properties of definite integrals, Evaluation of definite integrals. Integration of special function.
2.2 Application : Finding areas bounded by simple curves, Length   of simple curves, Volume of solids of revolution, centre of   mean of plane areas.
2.3 Simposns 1/3rd and Simposns3/8th rule and Trapezoidal Rule :
their application in simple cases.

Unit –III
3. Co-Ordinate Geometry (2 Dimension):

3.1 CIRCLE :   Equation of circle in standard form. Centre - Radius form,
                 Diameter form, Two intercept form.
3.2 Standard form and simple properties
   Parabola $x^2=4ay$, $y^2=4ax$,
   Ellipse $\frac{x^2}{a^2} + \frac{y^2}{b^2}=1$
   Hyperbola $\frac{x^2}{a^2} - \frac{y^2}{b^2}=1$

Unit –IV
4. Co-Ordinate Geometry (3 Dimension):
4.1 Straight lines and planes in space -
Distance between two points in space, direction cosine and   direction ratios, Finding equation of a straight line and Plane (Different Forms),
4.2 Sphere $x^2 + y^2 + z^2 + 2gx + 2fy + 2wz=d$ (Radius, Centre and General Equation)

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I Year II Semester
DIT-202 APPLIED PHYSICS-II

Unit -I

Optics: Nature of light, Laws of Reflection and Refraction, Snell's Law, Interference (Constructive and Destructive), Diffraction and Polarization (Concept Only),
Law of Mallus and Polaroid's.
Introduction To Fiber Optics : Critical angle, Total internal reflection, Principle of fiber optics, Optical fiber, Pulse dispersion in step-index fibers, Graded index fiber, Single mode fiber, Optical Sensor.

Unit -II

Lasers and its Applications: Absorption and Emission of energy by atom, Spontaneous and Stimulated Emission, Population inversion, Main component of laser and types of laser- Ruby Laser, He-Ne laser and their applications. Introduction to MASER.
Electrostatics :Coulomb's Law, Electric field, Electric potential, Potential energy, Capacitor, Energy of a charged capacitor, Effect of dielectric on capacitors.
D.C. Circuits : Ohm's Law, Kirchoff's Law and their simple application, Principle of Wheat Stone bridge and application of this principle in measurement of resistance (Meter bridge and Post Office Box); Carey Foster's bridge, potentiometer.

Unit –III

Magnetic Materials and Their Properties: Dia, Para and Ferro-magnetism, Ferrites, Magnetic Hysteresis Curve and its utility. Basic idea of super conductivity, Meissner's effect.
Semiconductor Physics: Concept of Energy bands in solids, classification of solids into conductors, insulators and semiconductors on the basis of energy band structure. Intrinsic and extrinsic semiconductors, Electrons and holes as charge carriers in semiconductors, P-type and N-type semiconductors.

Unit –IV

Junction Diode and Transistor : Majority and Minority charge carriers P-N junction formation, barrier voltage, Forward and reverse biasing of a junction diode, P-N junction device characteristics, Formation of transistor, transistor-action, Base, emitter and collector currents and their relationship LED's.

Unit –V

Introduction To Digital Electronics: Concept of binary numbers, Inter conversion from binary to decimal and decimal to binary. Concepts of Gates (AND, NOT, OR).
Non-conventional energy sources:
(a) Wind energy: Introduction, scope and significance, measurement of wind velocity by anemometer, general principle of wind mill.
(b) Solar energy: Solar radiation and potentiality of solar radiation in India, uses of solar energy: Solar Cooker, solar water heater, solar photovoltaic cells, solar energy collector.

DIT-202 PHYSICS LAB

Note: Any 4 experiments are to be performed.

1. Determination of coefficient of friction on a horizontal plane.

2. Determination of 'g' by plotting a graph T^2 verses l and using
   the formula $g=4n^2/$Slope of the graph line

3. Determine the force constant of combination of springs incase of 1. Series 2. Parallel.

4. To verify the series and parallel combination of Resistances with the help of meter bridge.

5. To determine the velocity of sound with the help of resonance tube.

6. Determination of viscosity coefficient of a lubricant by Stoke's law.

7. Determination of E_1/E_2 of cells by potentiometer.

8. Determination of specific resistance by Carry Foster bridge.

9. Determination of resistivity by P.O.Box.

10. Verification of Kirchhoff's Law.

11. To draw Characteristics of p-n Junction diode.

12. To measure instantaneous and average wind velocity by indicating cup type anemometer/hand
    held anemometer.

   NOTE: Students should be asked to plot a graph in experiments (where possible)
   and graph should be used for calculation of results. Results should be given
   in significant figures only.

Unit –I

Classification: Classification of materials into Conducting materials, Insulating materials, Semi-conducting materials with reference to their atomic structure.

Conducting Materials:

A. Resistivity and factors affecting resistivity such as temperature, alloying and mechanical stressing.

B. Classification of conducting materials into low resistivity and high resistivity materials. Some examples of each and their typical applications.

Insulating Materials:

A. Electrical Properties: Volume resistivity, Surface resistance, Dielectric loss, Dielectric strength (Break down voltage) and Dielectrics constant.
B. Chemical Properties: Solubility, Chemical resistance, Weather ability.
C. Physical Properties: Hygroscopicity, tensile and Compressive strength, Abrasive resistance, Brittleness.
D. Thermal Properties: Heat resistance, classification according to permissible temperature rise, Effect of electrical overloading on the life of an electrical appliance.
E. Plastic Insulating Materials: Classification into thermoplastic and thermosetting categories, examples of each and their typical applications

Unit – II

Magnetic Materials**:**
A. Ferromagnetism, domains, permeability, hysteresis loop-(including corrective force and residual magnetism) and magnetic saturation.
B. Soft and Hard magnetic materials, their examples and typical applications. Semi-Conductor And Special Purpose Materials:

N-type and P-type materials, application of semi-conductor materials, materials used in transistor and I.C. manufacture.

D.C. Circuits:
(I) Ohm's law, resistivity, effect of temperature on resistances, heating effect of electric current, conversion of mechanical units into electrical units.

(II) Kirchhoff's laws, application of Kirchhoff's laws to solve, simple d.c. circuits.

(III) Theremins theorem, maximum power transfer theorem, Norton's theorem and super position theorem, simple numerical problems.

Electrostatics:
- (I) Capacitance and capacitor, definition, various types.
- (II) Energy stored in a capacitor.
- (III) Capacitance in terms of dimensions of parallel plate capacitor.
- (IV) Dielectric constant of material, Break down voltage of a capacitor.
- (V) Series and parallel connection of capacitors.

Unit – III Electro Magnetism:

- (I) Concept of mmf, flux, reluctance and permeability.
- (II) Energy stored in a magnetic field and an inductor.
- (III) Solution of problems on magnetic circuits.
- (IV) Faraday's laws of electromagnetic induction, Lenz's law, Physical explanation of self and mutual inductance.
- (V) B-H curve, Hysteresis, Eddy currents elementary ideas and significance.
- (VI) Growth and decay of current in an inductive circuit.
- (VII) Force between two parallel current carrying conductors and its significance.
- (VIII) Current carrying conductor in a magnetic field and its significance.

Unit – IV A.C. THEORY:

(I) Concept of alternating voltage and current, difference between A.C and D.C..

(II) Generation of alternating voltage, equation of sinusoidal waveform.

(III) Definition and concept of cycle,   frequency, Time period, amplitude,

Instantaneous value, average value, RMS value, peak value, form factor,Peak factor.

(IV) Phase and phase difference, representation of alternating quantities by phasor, addition and subtraction of alternating quantities.

Batteries:
- (I) Construction of lead acid and nickel cadmium batteries.
- (II) Charging and maintenance of batteries.
- (III) Rating of batteries.
- (IV) Back up batteries (Lithium & Silver Oxide batteries)
- (V) Shelf life of batteries.

Unit-V

Transients & Harmonics: Introduction, Types of trasients, Important differential equations, First and Second order equations, Transients in R-L series circuits (D.C.), Short circuit current, Time constant, Transients in R-L series circuits (A.C.), Transients in R-C series circuits (D.C.), Transients in R-C series circuits (A.C), Double energy transients.

Fundamental wave and harmonics, Different complex waveforms, Gemeral equation of complex wave, R.M.S. value of a complex wave, Power supplied by complex wave, Harmonics in single phase a.c. circuits, Selective resonance due to harmonics, Effect of harmonics on measurement of inductance and capacitance

DIT-203 ELECTRICAL ENGINEERING-I LAB:

LIST OF PRACTICALS:

(1)Ohm's law verification.

(2)To verify the laws of series and parallel connections of resistances i.e. to verify:-

  (i)The total resistance in series connections. RT=R1+R2+R3.......

    Where RT is the total resistance and R1,R2,R3 etc. are the resistances connected

    in series.

  (ii)   The total resistance in parallel connections. 1/RT=1/R1 + 1/R2 + 1/R3......Where RT is the total resistance and R1,R2,R3 etc arethe resistances connected in parallel. Also to conclude that the total resistance value of a parallel circuit is less than the any individual resistance.

 (3)To verify Kirchoff's following laws:-

  (i)The algebraic sum of the currents at a junction is zero.

  (ii)   The algebraic sum of the e.m.f. in any closed circuit is equal to the algebraic sum of IR products (drops) in that circuit.

  (3) To measure the resistance of an ammeter and a voltmeter and to conclude that ammeter has very low resistance whereas voltmeter has very high resistance.

  (4) To verify The venin's and maximum power transfer theorems.

  (5) To find the ratio of inductance values of a coil having air core and iron core respectively and thus see that by the introduction of a magnetic material inside the coil, the inductance value of the coil is substantially increased.

  (6) To verify the relation:- CT=(C1*C2)/(C1+C2) and CT=C1+C2 For two capacitors, connected in series and parallel respectively.

  (7) To test a battery for charged and discharged conditions and to make connections for its charging.

  (8) To show that the range of an ammeter (d.c. and a.c.) and a voltmeter (d.c. and a.c.) can be extended with the use of shunts and multiplier.

  (10) To convert the given galvanometer into a voltmeter and an amm

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DIT- 204   ENGINEERING MECHANICS & MATERIAL

Unit-I Introduction: Mechanics and its utility. Concept of scaler and vector quantities. Effect of a force. Tension & compression. Rigid body. Principle of physical independence of force. Principle of transmissibility of a force.

Unit-II Forces Analysis: Concept of coplanar and non-coplanar forces including parallel forces. Concurrent and non-concurrent forces. Resultant force. Equilibrium of forces. Law of parallelogram of forces. Law of triangle of forces and its converse. Law of polygon of forces. Solution of simple engineering problems by analytical and graphical methods such as simple wall crane, jib crane and other structures. Determination of resultant of any number of forces in one plane acting upon a praticle, conditions of equilibrium of coplanar concurrent force system.

Unit-III Stresses and strains: Concept of stress and strain. Concept of various types of stresses and strains . Definitions of tension, compression shear, bending, torsion. Concept of volumetric and lateral strains, Poisson's ratio. Mechanical properties of MS, SS, CI Al and etc.
Beams & Trusses: Definition of statically determinate and indeterminate trusses. Types of supports. Concept of tie & strut, calculation of reaction at the support of cantilever and simply supported beams and trusses. (simple problems only)

Unit-IV A. Materials & Concept Used In Electronics : Soldering materials - Type, chemical composition and properties, Soldering alloys - Tin lead, Tin antimony, Tin silver, Lead silver, Tin zinc, Different types of flux and their properties, Properties of plastics materials, Epoxy materials for PCB (Single and multi layer board), Emulsion parameters, Film emulsion, Type of laminates (Phenolic, Epoxy, Polyester, Silicon, Melamine, Polyamide), Properties of copper clad laminates, Material (Filler, Resin, Copper Foil) Photo printing basic for double side PCB, Photo resin materials coating process materials, Screen printing and its materials Etching agent, Film processing and used materials.
Unit-V
(B)Soldering & Brazing:
For black Galvanized and Tin coated Iron sheet, brass and copper sheets only.

(i)   its concept, comparison with welding as joining method and classification, electric soldering and forge soldering.
(ii)   Soldering operation- edge preparation of joints, Pickling and degreasing, Fluxing, Tinning and Soldering. Wave soldering, solder mask, Dip soldering, Drag soldering,
(iii)Materials Used-Common fluxes, soft and hard solder, solder wire (Plain and Resin core) And sticks, spelters and their specifications and description (For Identification Only), forge soldering bits.
  a.   Electric soldering iron, other soldering tools.
  b.   Common defects likely to occurs during and after soldering.
  c.   Safety of Personnel, Equipment & Tools to be observed.

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DIT- 205 OPERATING SYSTEM

Unit-I Introduction:
Operating System and Function, Evolution of Operating System, Batch, Interactive, Time Sharing and Real Time System.

File System: File concepts, Access methods, Allocation methods, Directory System.

Unit-II
C.P.U.& Disk,Drum Scheduling: Scheduling concepts,Scheduling Algorithm, Multiprocessor, FCFS Schedulin,Shortest Seek-time first,Scan.

Unit-III
Memory Management: Swapping, Multiple partitions, Paging, Segmentation,Demand paging,page replacement.

Unit-IV
Deadlock : Introduction to Deadlock, Necessary Condition for Deadlock, Method For Handling Deadlock, Brier overview of Deadlock Prevention, Deadlock Avoidance (Banker Algorithm); Deadlock Detection & Recovery.

DIT-205   LIST OF PRACTICALS

1. Exercises on Widows Latest Version.

LIST OF BOOKS

I.   Milenekovie - Operating System Concept - McGraw Hill
II.   Petersons - Operating System - Addision Wesley
III   Dietal - An Introduction to Operating System- Addision Wesley

IV   Tannenbaum - Operating System Design adn Implementation -PHI
V   Gary Nutt- Operating System, a Modern Perspective- Addision Wesley

VI   Stalling, Willium - Operating System - Maxwell Macmillan
VII   Silveschatza, Peterson J - Operating System Comcpts - Willey
VIII   Crowley - Operating System - TMH

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(Faculty of Engineering and Technology)
P.K. University, Shivpuri (M.P)
I Year II Semester
DIT-206 FUNDAMENTAL OF ELECTRONIC DEVICES

Unit -I

Semiconductor Diodes: Semiconductor materials N type and P Type   P.N. Junction,   its forward and reversed biasing; junction diode characteristics, static and dynamic resistances and their calculation from diode characteristics. Diode (P-N junction) as , half wave, full wave rectifier including bridge rectifier, relationship between D.C. output voltage and A.C. input voltage,   rectification efficiency and   ripple factor for rectifier circuits, filter circuits, shunt capacitor, series inductor, capacitor input filter.   Different types of diodes, brief idea of characteristics and typical applications of power diodes, zener diodes, vector diodes, point contact diode, tunnel diodes, LEDs and photo diodes. Important specifications of rectifier diode and zener diode.

Bipolar Junction Transistor: Concept of bipolar junction transistor as a two junction
three terminal device having two kinds of charge carriers,   PNP and NPN transistors their symbols and mechanisms of current flow, explanation fundamental current relations.
Concept of leakage current (I cbo) effect of temperature on leakage current. Standard notation for current and voltage polarity; CB, CE, and CC configurations. Transistor input and output characteristics,   concept of active, cut off   and   saturation   region   Common   emitter configuration: current relations in CE configuration,   collector current in terms of base current and leakage current (Iceo), relationship between the leakage current in CB and CE configuration,   input and output characteristics, determination of dynamic input and output
 resistances and current amplification factor from the characteristics.

Unit -II

Single Stage Transistor Amplifier: Single stage CE amplifier with   proper   biasing   circuit and its working as voltage amplifier. AC load line and its use.
(a) Explanation of phase reversal of the output voltage with respect to input voltage. Introduction to tuned voltage amplifier.
Field Effect Transistor (Fet), Mosfet & Cmos
A.   FET :
-   Construction, operation, characteristics and Biasing of Junction FET.
-   Analysis of Single stage CB, CG and CD amplifier. (Only Brief Idea)
B.   MOSFET :
-   Construction, operation, characteristics and Biasing of MOSFET in both depletion and
    enhancement modes.
-   Analysis of Single stage CB, CG and CD amplifier. (Only Brief Idea)
C.   CMOS :
-   Construction, operation, characteristics of CMOS in both depletion and enhancement modes.
-   Use of CMOS as Inverter, Different Application of CMOS, CMOS IC.
-   Comparisons of JEET, MOSFET and Bipolar transistor.

Unit -III

Multistage & Power Amplifiers:

5.1 Need of multistage amplifier, different coupling schemes and their working, brief mention of application of each of the type of coupling.

5.2 Working of R.C. coupled and transformer coupled multistage amplifier, approximate calculation of voltage gain and frequency response for a two stage R-C coupled amplifier. Working principles of push pull amplifier circuits its advantages over single ended power amplifier.

Unit –IV

Feedback in Amplifiers : Basic principles and types of feedback, derivation of expression for the gain of an amplifier employing feedback. Effect of negative feedback on gain,. stability, distortion, and band width.(only physical explanation) typical feedback circuits:

(a) RC coupled amplifiers with emitter by-pass capacitor removed.

(b) Emitter follower, complementary symmetry power amplifier and its applications.

Regulated Power Supply:

7.1 Concept of regulation.

7.2 Basic regulator circuits (using zener diode).

7.3 Concept of series and shunt regulator circuits.

7.4 Three terminal voltage regulator Ics (positive negative and variable) application. Block diagram, Pin configuration and working of popular regulator IC.

OSCILLATORS:

8.1 Application of oscillators.

8.2 Use of positive feedback/negative resistance for generation of oscillation, barkhawn's criterion for oscillations.

DIT- 206 ELECTRONICS- I LAB:

1. Semiconductor diode : identification of types of packages, terminals and noting different ratings using data books for various types of semiconductor diodes (germanium, point contact, silicon low power and high power and switching diode).
2. Rectifier circuits using semiconductor diode measurement of input and output voltage and plotting of input and output wave shapes:
    (i)   Half wave rectifier
    ii)   Full wave rectifier (centre tapped and bridge rectifier circuits).
    (ii)   Plot the wave shapes of a full wave rectifier with shunt capacitor, series inductor, and filter circuit
    (iii)   Single stage common emitter amplifier circuit
        a. Measurement of voltage gain at 1 KHZ for different load resistances.
        b. Plotting of frequency response of a single stage amplifier circuit.
        c. Measurement of input and output impedance of the amplifier circuit.
    (iv)   To measure the overall gain of two stage R.C coupled amplifier at 1 KHZ and note the effect of loading of second stage on the first stage.
    (v)   (a)To plot the load Vs output power characteristic to determine the maximum signal input for undistorted signal output.

(b) The above experiment is to be performed with single ended   power amplifier, transistorized push pull amplifier. Complementary symmetry   power amplifier.

(vi)   To observe the effect of a bye-pass capacitor by measuring voltage gain and plotting   frequency response for a single stage amplifier.

(vii)   To measure input and output impedance of a   feedback amplifier with and without by-pass capacitor.

(viii)   Measurement   of voltage gain, input   and   output impedance and plotting of frequency response of an emitter follower circuit.

(ix)   Plot the FET characteristics and determination of its parameters from these characteristics.

(x)   To test adjustable IC regulator and current regulator.

(xi)   Identification of Some Popular IC of 74 and 40 series with Pin Number and other details.

(xii)   Application and use of Multi meter, CRO, Audio Oscillator and

(xiii)   Power Supply (D.C.)

Faculty of Engineering and Technology

P.K.University

Shivpuri (MP)

Evaluation Scheme & Syllabus for

Department of Computer Science Engineering & IT

Diploma in Information Technology

II Year: III & IV Semester

(Effective from session 2019-20)

(Taken From Board of Technical Education- B.T.E)

Department of Computer Science Engineering &IT
(Faculty of Engineering and Technology)
P.K. University, Shivpuri (M.P)

EVALUATION SCHEME

SEMESTER III						
		THEORY		PRACTICAL		TOTAL
SUBJECT CODE	**SUBJECT NAME**	SESS.(30)	EXT.(70)	INT.(25)	EXT.(25)	
DIT-301	Applied Mathematics-II	30	70	NA	NA	100
DIT-302	Programming in C & C++	30	70	25	25	150
DIT-303	Computer Organization	30	70	NA	NA	100
DIT-304	Unix & Linux	30	70	25	25	150

SEMESTER IV						
		THEORY		PRACTICAL		TOTAL
SUBJECT CODE	**SUBJECT NAME**	SESS.(30)	EXT.(70)	INT.(25)	EXT.(25)	
DIT-401	Data Communication & Computer Network	30	70	25	25	150
DIT-402	Office Tools	30	70	25	25	150
DIT-403	.Net Technology	30	70	25	25	150
DIT-404	Microprocessor & Its Application	30	70	25	25	150

Department of Computer Science Engineering &IT
(Faculty of Engineering and Technology)
P.K. University, Shivpuri (M.P)
II Year III Semester
DIT-301: APPLIED MATHEMATICS-II

Unit -I
1. Matrices :

1.1 Algebra of Matrices, Inverse : Addition, Multiplication of matrices, Null matrix and a unit matrix, Square matrix, Symmetric, Skew symmetric, Hermitian,Skew hermit ion, Orthogonal, Unitary, diagonal and Triangular matrix, Determinant of a matrix. Definition and Computation of inverse of a matrix.

1.2 Elementary Row/Column Transformation :Meaning and use in computing inverse and Rank of a matrix.

1.3 Linear Dependence, Rank of a Matrix :Linear dependence/independence of vectors, Definition and computation of a rank of matrix. Computing rank through determinants, Elementary row transformation and through the concept of a set of independent vectors, Consistency of equations.

1.4 Eigen Pairs, Cayley-Hamilton Theorem :Definition and evaluation of eign values and eign vectors of a matrix of order two and three, Cayley-Hamilton theorem (without Proof) and its verification, Use in finding inverse and powers of a matrix.

Unit -II
2. Differential Calculus :

2.1 Function of two variables, identification of surfaces in space, conicoids

2.2 Partial Differentiation : Directional derivative, Gradient, Use of gradient f, Partial derivatives, Chain rule, Higher order derivatives, Eulens theorem for homogeneous functions, Jacobians.

2.3 Vector Calculus :Vector function, Introduction to double and triple integral, differentiation and integration of vector functions, gradient, divergence and curl, differential derivatives.

Unit- III
3. Differential Equation:
3.1 Formation, Order, Degree, Types, Solution :Formation of differential equations through physical, geometrical, mechanical and electrical considerations, Order, Degree of a differential equation, Linear, Nonlinear equation.

3.2 First Order Equations: Variableseperable, equations reducible to seperable forms, Homogeneous equtions, equtions reducible to homogeneous forms, Linear and Bernoulli form exact equation and their solutions.

3.3 Higher Order Linear Equation :Property of solution, Linear differential equation With constant coefficients (PI for X=eax, Sin ax, Cos ax, Xn, eaxV, XV.

3.4 Simple Applications : LCR circuit, Motion under gravity, Newton's law of cooling, radioactive decay, Population growth, Force vibration of a mass point attached to spring with and without damping effect. Equivalence of electrical and mechanical system

Unit -IV
4. Integral Calculus - Ii:
4.1 Beta and Gamma Functions: Definition, Use, Relation between the two, their use in evaluating integrals.

4.2 Fourier Series: Fourier series of f(x),-n<x<n, Odd and even function, Half range series.

4.3 Laplace Transform : Definition, Basic theorem and properties, Unit step and Periodic functions, inverse Laplace transform, Solution of ordinary differential equations.

Unit- V
5. Probability And Statistics :
5.1 Probability: Introduction, Addition and Multiplication theorem and simple problem.
5.2 Distribution: Discrete and continuous distribution, Binomial Distribution, Poisson Distribution, Normal Distribution..

Department of Computer Science Engineering &IT
(Faculty of Engineering and Technology)
P.K. University, Shivpuri (M.P)
II Year III Semester
DIT-302 PROGRAMMING IN C & C++

Unit -I

Concept Of Programming :Concept of Flowchart, algorithm, programming structure to various technique of programming ,use of programming

Unit- II

Programming in C:Data Types, Operators and Expressions; Input & Output printf, scanf, clibrary Control Statement: IF- ELSE, While, For, Do-While, Switch; Functions and modular programming; Scope of variables, parameter passing, recursion, block structure; preprocessor statements; pointers and arrays; structures and unions; File handling.

Unit- III

Classes & Object: What is a class, what is an object, constructors, types   of

object(external, automatic static, Dynamic objects) Metaclass,role of meta class. Scope of classes, array of objects, objects as a function argument.

Unit- IV

Programming in C++**:** What is object-orientation, area of object technologic++, getting to grips with C++(data types, escape sequence, characters, variables, operator, notation, Arrays, Function conditional statements. call by value, call by reference. Pointer : C++ memory map, dynamic allocation pointers, pointers with arrays.Structure,structure with arrays, passing, structure of function. Enumerated data types, Inheritance, polymorphism & Overloading.

PROGRAMMING IN C & C++

List Of Experiments

1- Exercises involving output and input format controls in Pascal.

2- Exercises involving control transfer statements in C & C++
3- Exercises with arrays & Pointers in C & C++.
4- Exercises with functions in C & C++.
5- Exercises with files in C & C++.

Department of Computer Science Engineering &IT
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P.K. University, Shivpuri (M.P)
II Year III Semester
DIT-303 -COMPUTER ORGANIZATION

Unit -I

Introduction To Computer Organization: Basic computer organization : Functional units operational concepts, System buses and instruction cycle, CPU organization, Memory subsystem organization : Memory location, Address and encoding of information, Types of memory, Internal chip organization.

Unit -II

C.P.U.& Mathematical Logic: Processor Bus Organization, CPU Architecture Arithmetic Logic Unit, Stack Organization, Instruction formats, Addressing Modes, Data transfer manipulations, Program Control, Interrupt, Microprocessor Organization, Parallel processing. Logic gates, Boolean Algebra, Map simplification.

Unit -III

Cpu Organization : Register Organization : General register organization, Stack organization, Programmer visible register, Status and control register. Micro Operations : Register transfer, Bus and Memory transfer, Arithmetic, Logic and shift micro Operation. Control Unit : Structure of Control Unit, Hard wired control unit. Case Study : 8085 Microprocessor.

Unit -IV

Computer Arithmetic : Addition and substraction, Multiplication algorithms, Division algorithms, Floating point arithmetic operations.
Input Output Organization : I/O devices : Accessing, I/O interfaces, Asynchronous data transfer : Strobe control, Hand shaking, Modes of transfer : Programmed I/O, Interrupt - Initiated I/O, DMA interrupt hardware and priority I/O processes.

Unit -V

Memory Organization : Memory hierarchy, Main memory : RAM and ROM, Memory address map, Auxiliary memory. Cache Memory : Associative memory, Virtual memory concept.

LIST OF BOOKS

I-Patterson - Computer Organization adn Design- Elsevier Pub. 2009

II-William Stalling - Computer Organization - PHI
III- Cravice, Hamacher & Zaky - Computer Organization - TMH
IV- Mano - Computer Organization - PHI
V- John P Hays - Computer Organization- McGraw Hill
VI- Tannenbaum - Structured Computer Organization- PHI

Department of Computer Science Engineering &IT
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P.K. University, Shivpuri (M.P)
II Year III Semester
DIT-304 UNIX & LINUX

Unit -I

Linux: Overview of Linux, what is Linux, history/evaluation of Linux, features of Linux:(System Features, software features), File structures, File handling in Linux, Commands of Linux , how to create file & directory, hardware and software requirements.

Unit -II

Unix: What is Unix Operating System, Unix file system,Commands files: chmod , chown File System: types of files in unix, structure of file system, parent child relationship, mkdir, pwd, cd, PATH, and directories, cat, cp,mv, rm, ls, pg, tail & head commands. File attributes: ls, ls-l output, changing file permission chmod, chownd directory permissions,chgrp, unmask. editors:ed, vi, sed, standard input/output:(pipes, tree,)Shell as a interpreter EX. c shell , bourne shell, korn shell, restricted

Unit-III

Shell Administrations: Why does aunix system need administrator (System security, accounting, uucp,) su, system startup & shutdown, init process, cat shutdown, what is cron, creating file system, mounting and unmounting file system, saving and restoring file systems, adding and removing users, unix accounting system, accounting summary files. Administrating the uucp system, permission of systems.

PRACTICALS

 (a) Practices on commands using Linux.

 (b) Practices on commands using Unix

LIST OF BOOKS

I-UNIX Concepts and Applications, 4th Edition, Sumitabha Das-Tata McGraw Hill

II-UNIX and Shell Programming, Behrouz A Forouzan and Richard F Gilberg - Thomson Course Technology.

III-Unix Shell Programming - Y Kanetkar - BPB Publication

Department of Computer Science Engineering &IT
(Faculty of Engineering and Technology)
P.K. University, Shivpuri (M.P)
II Year IV Semester
DIT-401 DATA COMMUNICATION & COMPUTER NETWORK

Unit -I

Overview Of Data Communication And Networking : Introduction; Data Communication; Components, data representation (ASCII, ISO, etc.). Direction of Gata Flow (Simples, Half duplex, Full duplex), Network; Distributed processing, Network criteria, Physical structure (Types of connection, Topology), Categories of network (LAN, MAN, WAN); Internet; Brief history, Internet today; Protocols and standards; Reference models; OSI reference model TCP/IP reference model, their comparative study.

Unit -II

Physical Layer :
Overview of data (Analog and Digital), Singnal (Analog and Digital), Transmission (Analog and Digital) and Transmission media (Guided and Non-guided); TDM, FDM, WDM; Circuit switching; Time division and space division switch, TDM bus; Telephone network.

Data Link Layer :
Types of errors, Framing (Character and bit stuffing), Error detection and Correction methods; Flow control; Protocols Stop and wait ARQ, Go-Back, NARQ, Selective repeat ARQ, HDLC.

Unit –III

Medium Access Sub Layer : Point to point protocol, LCP, NCP, FDDI, Token bus, Toke ring; Reservation, Polling, Concentration; Multiple access protocols, CSMA,CSMA/CD, FDMA, TDMA, CDMA; Traditional Ethernet, Fast Ethernet

Network Layer : Internetworking and devices : Repeaters, Hubs, Bridges, Switches, Router, Gateway; Addressing : Internet address, Classful address, Subnetting; Routing : Techniques, Static vs. dynamic routing, Routing table for glassful address; Routing algorithms: Shortest path algorithm, Flooding, Distance vector routing, Link state routing; Protocols ARP, RARP, IP, ICMP, IPV6; Unicast and multicast routing protocols.

Unit- IV

Transport Layer :
Process to process delivery; UDP, TCP; Congestion control algorithm; Leaky bucket algorithm, Token bucket algorithm, Choke packets; Quality of service; Techniques to improve Qos.

Session Layer :
Functioning of session layer, OSI primitives.

Unit- V
Application Layer :
DNS;SMTP;SNMP;FTP; HTTP & WWW; Security; Cryptography, Use authentication, Security

protocols in internet Firewalls

Emerging Technologies In Networking : ISDN services and ATM; DSK technology, Cable modem,

Sonet wireless LAN: IEEE 802.11; Introduction to blue-tooth, VLAN's, Cellular telephony and

Satellite network.

TEXT BOOKS

1-B. A. Forouzan - Data Communication and Networking (3 Ed.) - TMH.

2-A. S. Tanebaum - Computer Networks (4 Ed.) - Pearson
Education/ PHI.

3-W. Stallings - Data and Computer Communication (5 Ed.) - Pearson Education/ PHI.

LIST OF PRACTICALS

1-Identification of various networks components

- Connection, BNC, RJ-45, I/O box

- Cables, Co-axial, twisted pair, UTP
- NIC (Network Interface Card)
- Switch, Hub

2-Sketch wiring diagram of network cabling considering a

computer lab of 20 systems.

3-Interfacing with the network card (Ethernet)
4- Preparing of network cables.
5- Establishment of a LAN
6-Use of protocols in establishing LAN
7- Trouble shooting of networks.
8- Installation of network device drivers.
9- Installation of networks (Peer Networking   client server interconnection.

10- Use/installation of proxy server

Unit- I Ms Word Processing:

File: Open, Close, Save and Find File, Print and Page Setup

Edit: Cut, Copy, Find, Replace

Insert: Page Insert, Page No., Symbol

Font: Paragraph, Tabs, Border & Shading, Change Case

Tools : Spelling, Mail Merge

Table : Insert Table, Delete Cells, Merge Cell, Sort Text

Unit –II MS Excel:

File : Open, Close, Save and Find File, Print and Page Setup

Edit : Cut, Copy, Find, Replace, Undo, Redo

Insert: Cell, Row, Worksheet, Chart

Format: Data, Sort, Filter, Form, Table

Unit -III

Power Point

File   : New,Open,Close,Save as   HTML,Pack and   Go,Page

setup,Send to ,Properties

Edit   : Cut, Copy, Find, Replace, Undo, Redo,Duplicate.

View   : Slide_Outline,Slide_sorter,Notepage,Slideshow,Master,

Black & white slide,Toolbars,Ruler ,Guides

Insert   : New slide, Duplicate slide, Picture, Text   box,Movies

& sound, Hyperlink.

Format   : Font,Bullet,Alignment,Line spacing,Slide layout.

Tool   : Power point,Presentation   &   conference,Expand

        slide,Macro,customise.

Slide show: View show,Rehearse timing,Naration,View on two

        screen ,Active buttons,Preset Animation,Custom -

        animation,Slide transition.

 Window   : New window,Arrange icons,Fit to page,Cascade.

Unit IV
Electronic Mail Using Outlook Express :
-Composing an Email Message

-Working with Address Book
-Automatically Add contents to Your Address Book
-Reading Email using Outlook Express
-Reading a message
-Checking for New Messages
-Reading file Attachment
-Taking Acting on a Messages
-Web Based Email
-Advantage os using Web Based Email.

MS-OFFICE
List of Practicals
1-Create a document using function: Saveas, Page Number, Bullets adn Numbering.

2-Create a document using styles and formatting option
3-Create a document using different fonts.
4-Create a document using the function page setup and page preview, then print that document.

5 -Create a table and perform operation in it.
6-Create a table, chart in excel and implement all formula as addition, substraction, multiplication and division.
7-How to use mail merge in MS Word.
8-Create a Power Point presentation using slide designing.
9-Create, Save and Print the Power Point Presentation.
10-Create a Power Point Presentation using Clipart, Word Art Gallery and then add transition and

animation effect.

LIST OF BOOKS
Microsoft Office 2010 For Dummies By Wallace Wang

2007 Microsoft Office System Plain & Simple by Jerry Joyce-Microsoft Press
Office XP : The Complete Reference- Stephen L. Selson -
Tata McGraw Hill Education.
Working in Microsoft Office - Richard Mansfield - Tata McGraw Hill Education.

Department of Computer Science Engineering &IT
(Faculty of Engineering and Technology)
P.K. University, Shivpuri (M.P)
II Year IV Semester
DIT-403 DOT .NET TECHNOLOGY

Unit –I The Dot(.) Net Framework : Introduction, Common Language Routine, Common Types System, Common Language Specification, The Base Class Library, The.NET class library Intermediate language. Justin- Time compilation, garbage collection, Application installation and Assemblies, Web Services, Unified classes.

Unit –II C# Basics : Getting started with .NET framework, Exploring Visual Studio.NET, Inside a C# Program, Data Types, Statements, Arrays, Using Strings, Objects, Classes and Structs, Properties, Inheritance, Indexers, Delegates, Events, Namespaces, Generics.

Unit –III Advanced Features Of C# : Collection and Data Structure, Exception, Handling, Threading, Using Streams and Files, Reflection, Assemblies, Versioning, Windows Forms, Controls, Data binding to Controls, Advanced Database Programming using ADO.net, Using GDI+, Networking, .net Removing, Manipulation XML.

Unit –IV VB .NET : Creating Applications with Visual Basic .NET, Variables, Constants adn Calculations, Making Decisions and Working with Strings, List, Loops, Validations, Sub Procedures adn Functions, Multiple Forms, Standard Modules and Menus. Array, Timers, Form Controls, File Handling, Exception Handling, Working with Database, Advanced Database Programming using ADO.net, Classes, Generics, Collections, Inheritance, Custom Controls, Packaging and deployment, Using Crystal Reports.

Unit –V Asp .Net 2.0 : Features of ASP .NET 2.0, Stages in Web Forms Processing, Introduction to Server Control, HTML Controls, Validation Controls, User control, Data Binding Controls, Configuration, Personalization, Session State, ADO.NET., Database Programming - Connecting with Database using DAO, RDO & ADO. Working with inbuilt Active X, Window Common Control, Creating Own Active X through Active X Control, Active X EXE, Difference between EXE and DLL.

LIST OF PRACTICAL

1.Develop small software using . NET Technology.

LIST OF BOOKS

1.Application of .NET Technology, ISRD Group- McGraw Hill.

2.Beginning ASP.NET 4:in C# and VB by Imar Spaanjaars

3.Introduction to .NET 4.0 with Visual Studio 2010 From A press Publication - Alex Mackey

4.Understanding .NET (2nd Edition) - David Chappell

Department of Computer Science Engineering &IT
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P.K. University, Shivpuri (M.P)
II Year IV Semester
DIT-404 MICROPROCESSOR & ITS APPLICATION

Unit I

1 .Overview Of Microcomputers System: 1.1 Functional block.

  (a) CPU.

  (b) Memory.

  (c) Input/Out devices (Key board, Floppy drive, Hard disk drive, Tape drive, VDU, Printer, Plotter).

1.2 Concept of programme and data memory.

   (a) Registers (general purpose)

   (b)external memory for storing data and results.

1.3 Data transfer between registers.

   (a) Concept of tri state bus.

   (b) Control on registers.

Unit -II

 2. Memory Of A Microcomputer:

  2.1 Concept of byte organised memory.

  (a)Address inputs.

  (b)Address space.

  ©Data input/output.

2.2 Addressing and Address decoding.

(a) Memory system organization.
(b) Partitioning of total memory space into small blocks.
(c) Bus contention and how to avoid it.
2.3 Memory chips.
(a) Types of ROM, RAM, EPROM, PROM.
(b)Read/Write inputs.
(c) Chip enable/select input.
(d) Other control input/output signals.

- Address latching.
- Read output.
- Address strobes.
- Power supply inputs.

2.4 Extension of memory
-In terms of word length and depth

2.5 C P U & Control:
(a) General microprocessor architecture.
(b)Instruction pointer and instruction register.
(c) Instruction format.
-Machine and Mnimonics codes.
-Machine and Assembly language.
2.6 Instruction decoder and control action.

2.7 Use of Arithmetic Logic Unit.
- Accumulator.
- Temporary Register.
-Flag flip-flop to indicate overflow, underflow,
-zero result occurrence.

2.8 Timing and control circuit.

- Crystal and frequency range for CPU operation.
-Control bus to control peripherals.

Unit -III
3. Introduction of 8085 Microprocessor:
Evolution of Microprocessor, Register Structure, ALU, BUS Organization, Timing   and Control.

3.1 Introduction of 8086 Microprocessor:
Internal organization of 8086, Bus Interface Unit, Execution Unit, Unit, register, Organization,

Sequential Memory Organization, Bus Cycle

3.2 Assembly Language Programming:
Addressing   Modes, Data Transfer, Instructions, Arithmetic and Logic Instruction, Program Control Instructions (Jumps, Conditional Jumps, Subroutine Call) Loop and String Instructions, Assembler Directives

Unit -IV

4.Basic I/O Interfacing :
Programmed I/O, Interrupt Driven I/O, DMA, Parallel I/O (8255-PPI, Centronics Parallel Port), Serial I/O (8251/8250, RS-232 Standard), 8259-Programmable Interrupt Controller, 8237-DMA Controller, 8253/8254-Programmable Timer/Counter, A/D and D/A conversion.

4.1 Memory Interfacing :
Types of Memory, RAM and ROM Interfacing with Timing Considerations, DRAM Interfacing

Unit -V

Advance Microprocessor And Micro Controllers: Brief idea of Microcontroller 8051, Pentium and Power PC

LIST OF BOOKS

1. Singh, B. P. - Advanced Microprocessor and Microcontrollers-New Age International.

2. Singh, B. P. - Microprocessor Interfacing and Application - New Age International.

3. Brey, Barry B. - INTEL Microprocessor - Prentic Hall (India)-4th Edition.

4. Liu and Gibson G.A. - Microcomputer System - The 8086/8088 Family-Prentice Hall (India) 2nd Edition.

5. Sombir Singh - Microprocessor and Its Application - Jai Prakash Publication, Meerut

MICROPROCESSORS AND APPLICATIONS LAB

LIST OF PRACTICAL'S

1. Assembly language programming: - Programming of simple problems.

2. Simple programming problems using 8085 and 8086 microprocessor. Trainer kit to gain competence in the use of

(a) 8085 and 8086 Instruction set.
(b) Support chips of 8085 and 8086.

Faculty of Engineering and Technology
P.K.University
Shivpuri (MP)

Evaluation Scheme & Syllabus for

Department of Computer Science Engineering & IT

Diploma in Information Technology

III Year: V & VI Semester

(Effective from session 2019-20)

(Taken From Board of Technical Education- B.T.E)

Department of Computer Science Engineering &IT
(Faculty of Engineering and Technology)
P.K. University, Shivpuri (MP)

EVALUATION SCHEME

SEMESTER V						
		THEORY		PRACTICAL		TOTAL
SUBJECT CODE	SUBJECT NAME	SESS.(30)	EXT.(70)	INT.(25)	EXT.(25)	
DIT-501	Industrial Management & Entrepreneurship Development	30	70	NA	NA	100
DIT-502	Data Structure Using C & C++	30	70	25	25	150
DIT-503	RDBMS	30	70	25	25	150
DIT-504	Java Programming	30	70	25	25	150
DIT-505	E-Commerce & ERP	30	70	NA	NA	100

SEMESTER VI						
		THEORY		PRACTICAL		TOTAL
SUBJECT CODE	SUBJECT NAME	SESS.(30)	EXT.(70)	INT.(25)	EXT.(25)	
DIT-601	Environmental Education & Disaster Management	30	70	NA	NA	100
DIT-602	Internet & Web Technology	30	70	25	25	150
DIT-603	Computer Graphics	30	70	25	25	150
DIT-604	Project					200

DIT -501 INDUSTRIAL MANAGEMENT & ENTREPRENEURSHIP DEVELOPMENT

Unit – I

Principles of Management

1.1 Management, Different Functions: Planning, Organizing, Leading, Controlling.

1.2 Organizational Structure, Types, Functions of different departments.

1.3 Motivation: Factors, characteristics, methods of improving motivation, incentives, pay, promotion, rewards, job satisfaction, job enrichment.

1.4 Need for leadership, Functions of a leader, Factors for accomplishing effective leadership, Manager as a leader, promoting team work.

2.Human Resource Development

2.1 Introduction, objectives and functions of human resource development (HRD) department.

2.2 Recruitment, methods of selection, training strategies and career development.

2.3 Responsibilities of human resource management – policies and functions, selection – Mode of selection – Procedure – training of workers, Job evaluation and Merit rating.

Unit- II

3.Wages and Incentives

3.1 Definition and factors affecting wages, methods of wage payment.

3.2 Wage incentive – type of incentive, difference in wage, incentive and bonus; incentives of supervisor.

3.3 Job evaluation and merit rating.

4.Human and Industrial Relations

4.1 Industrial relations and disputes.

4.2 Relations with subordinates, peers and superiors.

4.3 Characteristics of group behavior and trade unionism.

4.4 Mob psychology.

4.5 Grievance, Handling of grievances.

4.6 Agitations, strikes, Lockouts, Picketing and Gherao.

4.7 Labour welfare schemes.

4.8   Workers' participation in management.

5. Professional Ethics

5.1   Concept of professional ethics.

5.2   Need for code of professional ethics.

5.3   Professional bodies and their role.

Unit -III

6. Sales and Marketing management

6.1   Functions and duties of sales department.

6.2 Sales forecasting, sales promotion, advertisement and after sale services.

6.3   Concept of marketing.

6.4   Problems of marketing.

6.5   Pricing policy, break even analysis.

6.6   Distribution channels and methods of marketing.

7. Labour Legislation Act (as amended on date)

7.1   Factory Act 1948.

7.2   Workmen's Compensation Act 1923.

7.3   Apprentices Act 1961.

7.4   PF Act, ESI Act.

7.5   Industrial Dispute Act 1947.

7.6   Employers State Insurance Act 1948.

7.7   Payment of Wages Act, 1936.

7.8   Intellectual Property Rights Act

Unit -IV
8. Material Management

8.1   Inventory control models.

8.2   ABC Analysis, Safety stock, Economic ordering quantity.

8.3 Stores equipment, Stores records, purchasing procedures, Bin card, Cardex.

8.4 Material handling techniques.

9. Financial Management

9.1 Importance of ledger and cash book.

9.2 Profit and loss Account, Balance sheet.

9.3 Interpretation of Statements, Project financing, Project appraisal, return on investments.

10. Entrepreneurship Development

10.1 Concept of entrepreneur and need of entrepreneurship in the context of prevailing employment conditions.

10.2 Distinction between an entrepreneur and a manager.

10.3 Project identification and selection.

10.4 Project formulation.

10.5 Project appraisal.

10.6 Facilities and incentives to an entrepreneur.

Unit -V

11. Accidents and Safety

11.1 Classification of accidents based on nature of injuries, event and place.

11.2 Causes and effects of accidents.

11.3 Accident-prone workers.

11.4 Action to be taken in case of accidents with machines, electric shock, fires and erection and construction accidents.

11.5 Safety consciousness and publicity.

11.6 Safety procedures.

11.7 Safety measures – Do's and Don'ts and god housing keeping.

Department of Computer Science Engineering &IT
(Faculty of Engineering and Technology)
P.K. University, Shivpuri (M.P)
III Year V Semester
DIT-502 DATA STRUCTURE USING C & C++

Unit- I

Basic Concepts:
Basic concepts and notation & Mathematical background

Stacks And Queues
Representation of stacks & queues, linked sequential.

Unit- II
Lists:
List representation techniques, Multi linked structures, Dynamic storage allocation techniques.

Sorting Algorithms
Insertion sorts, Bubble sort, Quick sort, Merge sort, Heap sort

Unit-III
Tables: -
Searching sequential tables, Hash tables and Symbol tables, Heaps.

Trees : Definitions and basic concepts, Linked tree representations ,binary tree traversal algorithms,

B-trees and their applications. Graphs: Depths-first-search.

DATA STRUCTURE USING C & C++

LIST OF EXPERIMENTS

1. Write a program on Linked List Using 'C' & C++.

2. Exercise on Stack, Queues. Using C & C++

3. Exercises on Sorting .

TEXT BOOKS

1. Data Structure - Schaum's Outline Series - McGraw Hill
2. Data Structure - Schaum's Series - McGraw Hill Publications
3. Horwitz and Sartaj Sahni - Data Structure
4. Tanenbaum - Data Structures - Prentice Hall of India, New Delhi

5. Kanekar Yashwant - Data Structure through C, BPB Publication

Department of Computer Science Engineering &IT
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P.K. University, Shivpuri (M.P)
III Year V Semester
DIT-503 RDBMS

Unit -I
Overview Of Dbms :
Data, Representation of Data, Record, Data item, Field name, File, Data and Information, Database (Properties), Benefits of Database approach, Database Management System (Capabilities, Advantages, Disadvantages) and Functions of DBMS. Basic DBMS terminology (Data items, Entities and Attributes, Schema and Subschema, Database users, Instance and Schemas). Three views of Data (External View, Conceptual View, Internal View), Three level architecture of DBMS, Data Independence.

Unit -II
Data Models :Define data model, classify data model, Local Models : Object and Record based-Object Oriented Model- Entry relationship Models - Entity sets and relationship sets-Attributes - Keys in entity and relationship sets : (a) Super Key (b) Candidate Key (c) Primary Key (e) Unique Key - Mapping constraints. Object based logical models, E-R model, E-R diagram, Notations, Hierarchical Model (Advantage, Disadvantages), Network model (Advantages, Disadvantages), Relational Model (Advantages, Disadvantages), Object oriented database, Object oriented relational database.

Unit –III

Relational Model **:**Advantages, Disadvantages, Codd's 12 rules, Definition of Relations, Degree and Cardinality, Relational Model Constraints (Domain, Tuple Uniqueness, Key Constraints, Integrity Constraints, Entity constraints). Relations algebra (Basic operation : Union intersection and difference), Additional Relational Algebraic Operations (Projection, Selection rows, Division)

Relational Database Design :
Functional dependencies (I, II & III), Normal forms, Normalization, Boyce Codd Normal Form, Multi valued dependencis and Forth Normal Form, Join Dependencies and Fifth normal forms.

Unit –IV

Structure Query Language (Sql) :SQL, Object naming conventions, Object naming guidelines, Data types (Varchar 2, Number, Long, Date, Raw, Long Raw, Rowid, Char etc.), Tables, Views, Indexes, SQL Command :-DESCRIBE, SELECT, COLUMN ALIASES, CONCATENATION OPERATOR, DISTINCT CLAUSE, ORDER BY, WHERE CLAUSE, LOGICAL OPERATIONS, SQL OPERATORS.

Database Implementation Users:
Database integrity, Locking techniques for concurrency control, Concurrency control based in Time Stamp Ordering, Multisession Concurrency control techniques, Database Security.

Unit –V

Rational Database : Data definition language- Data manipulation language-Relational algebra -
Operators : Select, Project, Join, Rename, etc. - Simple example.
Security : Authorization and View- Security constraints - Integrity Constraints- Encryption.

LIST OF BOOKS

1. An Introduction to Database System - C. J. Date

2. Database System Concepts - A. Silberschatz & H. F. Korth

3. Database Concepts and Systems - Lvan Bayroos/SPD

4. Fundamental of Database System - R. Elmashri & S. B. Navathe

RELATIONAL DATABASE MANAGEMENT SYSTEM LAB

STRUCTURED QUERY LANGUAGE

1. Creating Database

   -Creating a database

   -Creating a table
   -Specifying relational data types
   -Specifying constraints
   -Creating indexes

2. Table and Record Handling

   – INSERT statement

   - Using SELECT and INSERT together
   - DELETE, UPDATE, TRUNCATE Statement.
   - DROP, ALTER statement

3. Retrieving Data from a Database

   – The SELECT statement
   – Using the WHERE clause
   – Using Logical Operators in the WHERE clause
   – Using In, BETWEEN, LIKE, ORDER BY, GROUP BY & HAVING clause
   - Using Aggregate Functions
   - Combining Tables Using JOINS

Unit - I

An Overview of JAVA:- Introduction to Object Oriented Programming (two paradigms, abstraction, the three oops principles) creation of JAVA, JAVA Applets & applications, security & portability.
Data Types & Control statements: Integer, floating point type, character, Boolean, all Operators, JAVA's selection statements, iteration and jump statement

Unit – II

Introducing Classes & Methods: Class fundamentals, declaring objects, overloading methods & constructs, access control, nested and inner classes, exploring the string class, Inheritance

Inheritance: Inheritance basics, member access and inheritance.

Unit – III

Multi threaded Programming: The JAVA thread model, thread priority, synchronization, messaging.

Unit – IV

Input/output Applets I/O Basics, byte streams & character streams, predefined streams, reading and writing console input/output, reading and writing files, applet fundamentals, applets class.

LIST OF PRACTICALS

Programs Using Control Statements.

LIST OF BOOKS

1. Core Java II Advanced Feature 8th Edition, Sun Microsystems

2. The Complete Reference JAVA Seventh Edition
3. Thinking in Java, Third Edition, Bruce Eckel Pearson Education.

4. JAVA 6 By Rogers Cadenhead, Laura Lemay, Pearson Education.

Department of Computer Science Engineering &IT
(Faculty of Engineering and Technology)
P.K. University, Shivpuri (M.P)
III Year V Semester
DIT-505 E-COMMERCE & ERP

Unit – I Electronic Commerce:

Overview, Definitions, Advantages and Disadvantages of E-commerce, threats of E-commerce, Managerial Prospective, Rules and Regulations For controlling E-commerce, Cyber Laws.

Technology: Relationship Between E-Commerce and Networking, Different Types of Networking For E-commerce, Internet, Internet and Extranet, EDI System Wireless Application Protocol : Definition, Hand Held Devices, Mobility and Commerce, Mobile computing, Wireless Web, Web Security, Infrastructure Requirement Form E-Commerce.

Unit – II Business Models Of E- Commerce: Model based on transaction, Type, Model Based on Transaction Party -B2B, B2C,C2b, C2c, E-Governance.

E-Strategy: Overview, Strategic, Methods for developing E-commerce.

FOUR C's: Four C's (Convergence, Collaborative Computing, Content Management and Call Center)

Unit – III Supply Chain Management: E-logistics, Supply Chain Portal, Supply Chain Planning. Tools (SCP Tools), Supply Chain Execution (SCE), SCE-Framework, Internet's effect on Supply Chain Power.

E-Payment Mechanism: Payment through card system, E-Cheque, E-Cash, E-Payment Threats and protections.

E- Marketing :Home-Shopping, E-Marketing, Tele-Marketing.

Unit – IV Electronic Data Interchange (EDI): Meaning, Benefits, Concepts, Application, Edi Model.

Risk Of E-Commerce : Overview, Security for E-commerce, Security Standards, Firewall, Cryptography, Key Management, Password system, Digital certificates, Digital signatures.

Unit – V

Enterprise Resource Planning (EPR) : Feature, capabilities and overview of commercial software, re-engineering work pressure of IT applications, Business Process Redesign, Knowledge Engineering and data warehouse.

Siness Modules:
Finance, Manufacturing (Production), Human Resource, Plant Maintenance, Materials Management, Quality Management, Sales and Distribution

LIST OF BOOKS

1. E-Commerce-M. M. Oka- EPH

2. Electronic Commerce- Technologies & Application - Bhaskar Bharat - TMH

3. E-Commerce :Strategy Technologies and Applications - Tata McGraw Hill

DIT-601 ENVIRONMENTAL EDUCATION & DISASTER MANAGEMENT

Unit – I Introduction: Basics of ecology, Ecosystem, Biodiversity Human activities and its effect on ecology and eco system, different development i.e. irrigation, urbanization, road development and other engineering activities and their effects on ecology and eco system, Mining and deforestation and their effects.

I.   Lowering of water level, Urbanization.
II.   Biodegradation and Biodegradability, composting, bio remediation, Microbes .Use of bio pesticidies and bio fungicides.
III.   Global warning concerns, Ozone layer depletion, Greenhouse effect, Acid rain, etc.

Pollution: Sources of pollution, natural and manmade, their effects on living environments and related   legislation

Unit – II Water Pollution:

I.   Factors contributing water pollution and their effect. Domestic waste water and industrial waste water. Heavy metals, microbes and leaching metal.

II. Physical, Chemical and Biological Characteristics of waste water.

III-Indian Standards for quality of drinking water.
IV-Indian Standards for quality of treated waste water.
V- Treatment methods of effluent (domestic waste water and industrial/ mining waste water), its

      Reuse/safe disposal

 Air Pollution：Definition of Air pollution, types of air pollutants i.e. SPM, NOX, SOX, GO, CO2, NH3, F, CL, causes and its effects on the environment.

i.   Monitoring and control of air pollutants, Control measures techniques. Introductory Idea of control equipment in industries i.e.
   a. Settling chambers
   b. Cyclones
   c. Scrubbers (Dry and Wet)
   d. Multi Clones
   e. Electro Static Precipitations
   f. Bog Fillers.

ii.   Ambient air quality measurement and their standards.

-     Process and domestic emission control
-     Vehicular Pollution and Its control with special emphasis of Euro-I,
      Euro-II, Euro-III and Euro IV.

Unit – III

Noise Pollution: Sources of noise pollution, its effect and control.

Radis active Pollution: Sources and its effect on human, animal, plant and material, means to control and preventive measures.

Solid Waste Management: Municipal solid waste, biomedical waste, Industrial and Hazardous waste, Plastic waste and its management

Unit – IV

Environmental Impact Assessment (EIA)

- Basic concepts, objective and methodology of EIA.-Objectives and requirement of Environmental Management System (ISO-14000) (An Introduction).

Unit – V

Disaster Management : Definition of disaster - Natural and Manmade, Type of disaster management, How disaster forms, Destructive power, Causes and Hazards, Case study of Tsunami Disaster, National policy- Its objective and main features, National Environment Policy, Need for central intervention, State Disaster Authority- Duties and powers, Case studies of various Disaster in the country, Meaning and benefit of vulnerability reduction, Factor promoting vulnerability reduction and mitigation, Emergency support function plan. Main feature and function of National Disaster Management Frame Work, Disaster mitigation and prevention, Legal Policy Frame Work, Early warning system, Human Resource Development and Function, Information dissemination and communication.

Department of Computer Science Engineering &IT
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P.K. University, Shivpuri (M.P)
III Year VI Semester
DIT-602 INTERNET & WEB TECHNOLOGY

Unit – I

Internet : Introducing Internet, Its Uses : Why Internet, Basic internet Tools, E-Mail, Ftp, Telnet, Usenet News, Web Browsers, Search Engines, Yahoo, Archie, Info seak, Veronica, World Wide Web.

How Internet works: Administration of Internet, How to Go On Internet : Requirements, Hardware, Software, ISP, Internet Account PPP/Shell. How to Use E-Mail Services On Internet Introducing Hotmail/Yahoo/Vsa-Net, How To Operate E-Mail address, How to Operate E-Mail Services : Sending E-Mail, Forwarding, Saving, Reading etc., How to attach files,

Unit – II Web Technology : HTML: Elements of HTML, HTML sources & Rules of nesting, syntax conventions, HTML Categories, text tags, Formatting WebPages by using Styles, adding pictures, image attribute , introduction to forms, tables and models, advantages & limitations of tables, frames, links. SS cascading style sheets, XHTML, XML, Client Side Scripting, Server Side Scripting, Managing data with SQL.

Unit – III Java Scripts: what is a Java Scripts, adding, Java scripts to documents, embedding java scripts, linking java scripts, creating a page program with scripts. What is a Java and its applets, to make web pages run server scripts, activeX. Data types, variables, operators, conditional statements, array object, date object, string object.

JAVA SERVLET : Servlet environment and role, HTML support, Servlet API, The servlet life cycle, Cookies and Sessions

Unit – IV JSP : JSP architecture, JSP servers, JSP tags, understanding the layout in JSP, Declaring variables, methods in JSP, inserting java expression in JSP, processing request from user and generating dynamic response for the user, inserting applets and java beans into JSP, using include and forward action, comparing JSP and CGI program, comparing JSP and ASP program; Creating ODBC data source name, introduction of JDBC, prepared statement and callable statement

Unit – V Dynamic Web Pages: The need of dynamic web pages; an overview of DHTML, Cascading Style Sheet (CSS), Comparative studies of different technologies of dynamic page creation. Active Web Pages: Need of active web pages; Java applet life cycle.

LIST OF PRACTICAL

1. Exercises on E-Mail.
2. Exercises on to see web sites.
3. Development of different Websites using all tools.
4. Development of Websites using Front page

Department of Computer Science Engineering &IT
(Faculty of Engineering and Technology)
P.K. University, Shivpuri (M.P)
III Year VI Semester
DIT-603 COMPUTER **GRAPHICS**

Unit – I Overview of Graphics System: Refresh Cathode Ray Tubes, Random Scan and Raster Scan Monitors, Color CRT Monitors, DVST, Plasma Panel Displays, LED and LCD Monitors, Laser Devices, Three dimensional monitors, Hard copy devices - Printer, Plotters, Display processes- Random-Scan systems, DVST system, Raster Scan System.

Output Primitives :Points and lines, Line drawing algorithms, DDA algorithm, Presentations Line Algorithm, Ant aliasing Lines, circle generating algorithms - Circle equation, Presentations circle algorithm

Unit – II Attributes Of Output Primitives: Line styles, Line type, Line width, Line color, Area filling- Scan line algorithm, Boundary fill algorithm, Flood fill algorithm.

Two Dimensional Transformations : Basic transformations, Translation, Scaling and Rotation, Matrix representation of homogeneous co-ordinates Composite transformations, Translations, scaling and protection, scaling relative to a fixed point, Rotation about fixed point, Arbitrary scaling directions, Other transformations- Reflection and Shear

Unit – III Windowing and Clipping: Windowing concepts, Clipping algorithms - Line clipping, Area clipping, Text clipping, Blanking, Window to viewport transformations.

Unit – IV Interactive Input Methods : Touch panel, Light pens, Graphics tablets, Joy sticks, Track ball, Mouse, Voice systems, Logical classification of input devices, Locator devices, Stroke devices, String device, Valuator devices, Choice device, Pick device.

Unit – V Three Dimensional Concepts : Three dimensional co-ordinate system, Three dimensional display techniques, Parallel projection, Perspective projection, Intensity cueing, Hidden line removal, Three dimensional transformation, Translation, Rotation and scaling.

LIST OF BOOKS

1. Computer Graphics - Hearn & Baker

2. Computer Graphics - Bresenham

List of Experiments

1. Practice on Computer Aided Drafting and Design.

2.Exercies Based on all tools of graphics