

(A) COURSE TITLE AND CODE : COMMUNICATION SKILLS–II, G – 201

(E) TEACHING AND EXAMINATION SCHEME:

Sl. No.	Course Code	Name of Course	Teaching Scheme					Examination Scheme				Total Marks
			Pre-requisite	L	T	P	C	Theory		Practical		
								ET	PA	ET	PA	
1.	G- 201	Communication Skills –II	G-101	3	1	-	4	75	25	-	-	100

(F) DETAILED COURSE CONTENTS

CHAPTER-1.0 ESSENTIALS OF EFFECTIVE BUSINESS CORRESPONDENCE

- Introduction
- Simplicity
- Clarity of goal
- Courtesy
- Persuasion
- Sincerity.
- Tactful approach.

CHAPTER-2.0 BUSINESS LETTER

- Introduction
- Different types

CHAPTER-3.0 ENQUIRIES & REPLIES

- Enquiries
- Replies.
- Quotations
- Sample letters

CHAPTER-4.0 CIRCULAR LETTERS

- Introduction
- Salient features

CHAPTER-5.0 APPLICATIONS FOR EMPLOYMENT

- Introduction
- Application formats.

- Covering letter
- The Curriculum Vitae/ Resume

CHAPTER-6.0 AGENDA & MINUTES

- Introduction
- Technique
- Key language

CHAPTER-7.0 NOTICES, CIRCULARS & ORDERS

- Introduction
- Notices
- Circulars
- Orders

CHAPTER-8.0 REPORT WRITING

- Introduction
- Techniques of writing a Report

CHAPTER-9.0 PROPOSAL WRITING

- Introduction
- Types of Proposal

(G) SPECIFICATION TABLE SHOWING DISTRIBUTION OF MARKS AND HOURS

Chapter No.	Chapter Title	Hours	Marks			
			K	C	A	Total Mark
1.	Essentials of Effective Business Correspondence Communication	4	4	-	-	4
2.	Business Letter	6	-	3	5	8
3.	Enquiries & Replies	6	-	2	4	6
4.	Circular Letters	6	-	2	4	6
5.	Applications For Employment	8	-	3	7	10
6.	Agenda & Minutes	8	-	3	7	10
7.	Notices, Circulars & Orders	8	-	3	7	10
8.	Report Writing	9	-	3	7	10
9.	Proposal Writing	9	-	2	9	11
	Total	64	4	21	50	75

Abbreviations: K=Knowledge level, C= Comprehension Level, A=Application level

(A) **COURSE TITLE AND CODE : ENGINEERING DRAWING, G - 203**

(E) **TEACHING AND EXAMINATION SCHEME:**

Sl. No.	Course Code	Name of Course	Teaching Scheme					Examination Scheme				Total Marks
			Pre-requisite	L	T	P	C	Theory		Practical		
								ET	PA	ET	PA	
2.	G- 203	Engineering Drawing		2	-	6	8	75	25	25	25	150

(F) **DETAILED COURSE CONTENTS**

CHAPTER 1.0 INTRODUCTION TO DRAWING

- Use of different drawing instruments
- Conventions of Lines
- Principle of dimensioning system.
- Types and construction of scales – Plain and Diagonal scale
- Computer hardware and software requirements for CAD

CHAPTER – 2.0 CURVES AND TANGENTIAL

- Construction of Ellipse by
- Arc and Circle method
- Concentric Circle method
- Rectangle/ Oblong method
- Construction of Parabola by
- Directrix focus method
- Rectangle method
- Draw Hyperbola by
- Transverse axis and focus method
- Passing through a given point.
- Draw involutes of
 - A polygon
 - A circle
- Use of CAD commands for generating above curves

CHAPTER – 3.0 PROJECTION OF POINTS AND LINES

- Projection of Points in different planes.
- Projection of lines in different plane
- Lines inclined to one reference plane
- Use of filter command in CAD for above.

CHAPTER - 4.0 PROJECTION OF PLANES

- Projection of planes of following shapes
- Circular
- Rectangular
- Pentagonal
- Hexagonal
- Projections for above planes for inclined to one plane.
- For a Cube, Prism Pyramid, Cone etc.

CHAPTER – 5.0 PROJECTION OF SOLIDS

- Projection of following solids, inclined to one reference plane.
- Prism
- Cube
- Pyramid
- Cylinder
- Projection of above solids when section resting on base and ground.

CHAPTER – 6.0 ORTHOGRAPHIC PROJECTIONS

- Introduction
- First angle and Third angle projections
- Conversion of simple pictorial view to orthographic view.
- Draw plan side view and top view in third angle
- Use CAD for Orthographic projections

CHAPTER – 7.0 SECTIONAL VIEWS

- Conversion of given pictorial view to sectional view.
- Draw sectional view at given sections for both X and Y-axis.

CHAPTER – 8.0 DEVELOPMENT OF SURFACES

- Development of surfaces for the following
- Cube
- Cylinder
- Prism
- Cone and frustum cone
- Use CAD for development of surfaces.

CHAPTER – 9.0 ISOMETRIC PROJECTIONS

- Isometric Scales
- Isometric views of simple objects
- Isometric views for slots and cuts in the objects

CHAPTER – 10.0 STANDARD CONVENTIONS AND SYMBOLS

- Conventions as per IS Codes
- Symbols as per Codes
- The above conventions and symbols are for Civil, Mechanical and Electrical Engg.

(G) SPECIFICATION TABLE SHOWING DISTRIBUTION OF MARKS AND HOURS

Sl. No.	Chapter No.	Chapter Title	Hours	Marks			
				K	C	A	Total Mark
1.	1.0	INTRODUCTION TO DRAWING	2	2	2	-	4
2.	2.0	CURVES AND TANGENTIAL EXERCISES	4	2	2	6	10
3.	3.0	PROJECTION OF POINTS AND LINES	3	-	2	6	8
4.	4.0	PROJECTION OF PLANES	3	2	2	4	8
5.	5.0	PROJECTION OF SOLIDS	3	-	2	7	9
6.	6.0	ORTHOGRAPHIC PROJECTIONS	4	2	-	5	7
7.	7.0	SECTIONAL VIEWS	4	2	-	5	7
8.	8.0	DEVELOPMENT OF SURFACES	3	-	2	5	7
9.	9.0	ISOMETRIC PROJECTIONS	3	2	1	4	7
10.	10.0	STANDARD CONVENTIONS AND SYMBOLS	3	4	2	2	8
Total			32	16	15	44	75

Abbreviations: K=Knowledge level, C= Comprehension Level, A=Application level

**(A) COURSE TITLE & CODE : ENGINEERING MATHEMATICS – II
G – 207**

(E) TEACHING AND EXAMINATION SCHEME:

Course Code	Name of Course	Teaching Scheme					Examination Scheme				Total Marks
		Pre-requisite	L	T	P	C	Theory		Practical		
							ET	PA	ET	PA	
G- 207	Engineering Mathematics-II	G-103	4	1	-	5	75	25	-	-	100

(F) DETAILED COURSE CONTENTS

CHAPTER 1.0 COORDINATE GEOMETRY

- Coordinate Systems:
- Cartesian & Polar Coordination.
- Distance Divisional Areas:
- Distance between two points.
- Division of line segment.
- Area of a triangle.
- Standard forms of the equations of a straight line:
- Locus of a point.
- General Equation.
- Intersection of straight line:
- Angle between them.
- Bisector of the angle between them.
- Change of axis:
- Transformation of coordinator when origin is shifted.
- When axis are rotated.
- Straight lines: $X^2 + 2hxy + by^2$:
- Quadratic Equation.
- Properties of Q. Equation.
- Geometric figures:
- Circle.
- Parabola.
- Ellips Hyperbola.
- Definition & Properties.
- Standard Equations.

CHAPTER – 2.0 DIFFERENTIAL CALCULUS

- Functions

- Independent & Dependent Variables.
- Types of functions.
- Limits:
 - Concept of limits.
 - Evaluation of limits.
- Differentiation by 1st Principle:
 - Differentiation of Sum.
 - Product and Quotient.
 - Differentiation of function of a function.
 - Differentiation of Trigonometrical, Inverse Trigonometrical & Hyperbolic functions.
 - Logarithmic differentiation.
 - Differentiation of Tropical & Parametric functions.
- Partial Differentiation:
 - Differential Equations.
 - Partial Differentiation.
 - Successive Differentiation.
 - Higher order derivatives.
 - Linear differentiation Equations.
- Application of differentiation:
 - Differential coefficient.
 - Application of coefficient.
 - Equation for Tangent, Normal Tangent, Sub-tangent and Subnormal-tangent.

CHAPTER – 3.0 INTEGRAL CALCULUS

- Integration:
 - Definition.
 - Fundamental Properties.
- Methods of Integration:
 - Integration by Substitution.
 - Integration by parts.
 - Integration by partial fractions.
 - Reduction formula for integration of $\sin^n x \cdot \cos^n x$
- Definite Integrals:
 - Definition of gamma function.
 - Evaluation of gamma function.
- Application of Integration:
 - Definite integral as limit of a sum.
 - Area of a plane curve.
 - Length of areas of plane curve.
 - Work done.
 - Volume.
 - Mean & RMS values.
 - Centre of gravity.
 - Simpson's Rule.
- Evaluation of Integrals:
 - Evaluation of double integrals.

- Evaluation of triple integrals.
- Use of constant limits.

CHAPTER - 4.0 DISCRETE MATHEMATICS

- Relational algebra.
- Sets & subsets.
- Operations on sets
- Product sets (Cartesian product)
- Concepts of relation, domain and Range
- Sets arising from relations.

(G) SPECIFICATION TABLE SHOWING DISTRIBUTION OF MARKS AND HOURS

Chapter No.	Name of Chapter	Hours	Marks			
			K	C	A	Total Mark
1.0	Coordinate Geometry	22	2	5	8	15
2.0	Differential Calculus	24	4	6	8	18
3.0	Integral Calculus	20	4	8	10	22
4.0	Discrete Mathematics	14	4	8	8	20
	Total	80	14	27	34	75

Abbreviations: K=Knowledge level, C= Comprehension Level, A=Application level

(A) COURSE TITLE & CODE : FUNDAMENTALS OF ELECTRICAL & ELECTRONICS (CPE - 201)

(TEACHING AND EXAMINATION SCHEME)

Code	Name of Course	Teaching Scheme					Examination Scheme				Total Marks
		Pre-req.	L	T	P	C	Theory		Practical		
							<i>ET</i>	<i>PA</i>	ET	PA	
CSE-204	Fundamentals of Electrical, Electronics & Measurement	G-105	3	-	2	5	75	25	50	25	175

(A) DETAILED COURSE CONTENT

CHAPTER – 1.0 SEMICONDUCTOR DIODE

- **DIODE:** PN Junction, PN junction with no external bias, forward bias and reverse bias, characteristics of semiconductor diode, working principle of PN junction, reverse breakdown, static and dynamic resistance, Silicon diode Vs Germanium diode.
- **3.2 Types Of Diode-**Zener diode, operating principle, VI-characteristics, zener diode as a voltage regulator, varactor diode, light emitting diode.
- Use of diode as half wave and full wave (Centre tapped and bridge type) rectifiers. Relation between d.c. output and a.c. input voltage. Concept of ripples, filter circuits, Shunt capacitor, Series inductor & filters and their applications.

CHAPTER – 2.0 RECTIFIERS AND FILTERS

- **Semiconductor diode applications.**
- **Rectifier Circuits:**
- Half wave, full wave, center tap, bridge and their comparison, Ripple factor, PIV, merits and demerits of rectifier circuits.
- **4.3 Filters:** Necessity of filters, types of filters, shunt capacitor filters, series Inductor, LC filter, Π filter and their comparison.

CHAPTER – 3.0 BIPOLAR JUNCTION TRANSISTOR

- Construction, symbol, operating principle of PNP and NPN transistors, transistor configurations: CC, CB, CE. Transistor characteristics in different configurations and comparison.

CHAPTER – 4.0 TRANSISTOR BIASING

- **Transistor Biasing**- Introduction, operating point, need of transistor bias,
- **Types of transistor biasing** - Fixed bias, emitter feedback bias, collector feedback bias, voltage divider bias, stabilization of operating point, need for stabilization, thermal runaway, stability factor.

CHAPTER – 5.0 TRANSISTOR AMPLIFIERS

- **Amplifiers**-Introduction, classification of amplifiers, single stage C.E. amplifier
 - **Multistage transistor amplifier** - RC coupled, transformer coupled and direct coupled amplifier, frequency response of multistage amplifiers.
- 7.3 Power Amplifiers** - Difference between voltage and power amplifier, classification of power amplifiers.

CHAPTER – 6.0 FIELD EFFECT TRANSISTORS

- Introduction, construction, symbol, working principle, types of JFET, characteristics of JFET, Comparison, merits and demerits of JFET with BJT
- **FET parameters** - Dynamic drain resistance, transconductance, pinch-off voltage, amplification factor.
- **MOSFET** - Metal Oxide Semiconductor FET Construction, symbol and working principle of MOSFET.

CHAPTER – 7.0 REGULATED POWER SUPPLY

- Need of regulated power supply, regulation, stabilisation of voltage by Zener-diode, its limitations.
- Block diagram of regulated power supply, transistorised regulated power supply and short circuit protection

CHAPTER – 8.0 ELECTRICAL & ELECTRONIC MEASUREMENT

- Working principle and Construction of Ammeters and Voltmeter, difference between them, extension of range and simple numerical problems.
- Principle and working of Watt meter (dynamometer type) and Energy meter (Induction type)
- Digital measuring instruments, Seven-segment display and its applications

CHAPTER – 9.0 INTEGRATED CIRCUITS

- Introduction to Integrated Circuits and types of ICs.

(G) SPECIFICATION TABLE SHOWING DISTRIBUTION OF MARKS AND HOURS

Chapter No.	Name of Chapter	Hours	Marks			
			K	C	A	Total Mark
5.0	Semi conductor Diode	4	2	2	4	8
6.0	E Rectifiers and Filters	6	2	2	4	8
7.0	BiPolar Junction Transistor	4	2	1	3	6
8.0	Transistor Biasing	6	2	2	4	8
9.0	Transistor Amplifier	2	2	2	4	8
10.0	Field Effect Transistors	6	2	3	3	8
11.0	Regulated Power Supply	6	4	2	2	8
12.0	Electrical & Electronic Measurement	6	2	2	4	8
13.0	Integrated Circuits	4	2	2	2	6
14.0		4	2	2	3	7
		48	22	20	33	75

Abbreviations: K=Knowledge level, C= Comprehension Level, A=Application level

**(A) COURSE TITLE & CODE : COMPUTER CENTER MANAGEMENT
(CPE - 202)**

(A) TEACHING AND EXAMINATION SCHEME:

Code	Name of Course	Teaching Scheme					Examination Scheme				Total Marks
		Pre-req.	L	T	P	C	Theory		Practical		
							<i>ET</i>	<i>PA</i>	ET	PA	
CSE-203	Computer Centre Management	G202	3	1	-	4	100	25	-	-	125

(B) DETAILED COURSE CONTENT

CHAPTER-1.0 INFORMATION SERVICE TRENDS AND ISSUES

- Present and future Information Technology Industry Scenario: Problems and Trends, Solution through Information Service (IS) Department/Centre
- Organization and Administration of an IS center: Common Manpower levels and their Roles
- Functions of Computerized IS: System Development, System Maintenance, Production, Administration, Technical Support.
- Cost Vs Benefits: Equipment Costs, Installation Costs, Development Costs, Personal Costs, Operating Costs Vs Benefits

CHAPTER-2.0 ESTABLISHING INFORMATION SERVICE CENTRE

- Computer Software Acquisition:- System and Application Software requirement, Evaluation Criteria- Cost, Service and support, Documentation, Flexibility, Stability, M/c and O.S dependency, Completeness; Tailor made package evaluation Criteria- System Adaptability, Training, Portability, Performance and Capacity, support, File Maintenance, Controls, Data Integrity and Backup
- Computer Hardware Acquisition- Identification, Guidelines & Specification of computer systems (Server/workstations), Peripherals: printer, scanner, plotter etc.; Network Equipments: Switches, Hubs, network cable and connectors etc.

CHAPTER-3.0 ELECTRICAL EQUIPMENTS REQUIREMENTS

- Physical Layout and structure considerations- computer layout-Architecture (space), false ceiling, false flooring, computer furniture's , Room Layout, Air Conditioning, Dust - free, Cleanliness, Sitting arrangements, Access, Security, Fire safety and protection, Environment Factors.
- Electrical Equipment and fittings considerations: Power and Lighting, Electrical Fittings, System load, Specifications of window air conditioner/split-AC, fire-extinguishers, tool kit, servo stabilizer, Specifications of isolations Transformer, UPS, CVT, CVR, Safety Considerations.

CHAPTER – 4.0 PROCUREMENT PROCESS: HARDWARE & SOFTWARE

- Need Identification, Alternative Selection, H/w & S/w requirement Study and Configuration, Request for Quotations, Evaluation of Quotations, Selection and Ordering, Delivery, Installation & Benchmarking.
- Acceptance and Taking Over, Post Installation, Basis for Evaluation Checklist.

CHAPTER – 5.0 PROJECT MANAGEMENT

- Need for Planning
 - Uncertainty in data processing plans
 - Long –term plans
- Project Planning
 - Project Phases, Estimating, Resource Scheduling
- Planning Control Aids
 - Critical Path Method, Gantt charts, Networks, Network Analysis, Planning from the network, Network Packages
- Project control
- Measuring Progress, Recording Progress, Deviation from plans, Performance Statistics

CHAPTER-6.0 SECURITY ASPECTS

- Physical Security- Security factors, fire, flooding, earthquake, theft and sabotage, electrical failure
- Data Security-Accidental disclosure, deliberate infiltration, control of illegal access, control measure/techniques for security-authorization
- System Security-Log Book Maintaining, Viruses, backups

CHAPTER –7.0 MAINTENANCE & NETWORK MANAGEMENT

- Maintenance
 - Introduction: Factors for negotiating the hardware maintenance contract-terms, service and response, vendor support etc.
 - Different types of maintenance
 - Preventive maintenance
 - Remedial Maintenance
 - Intermittent faults
 - Customer provided information and its synthesis
- Network Management
 - Intranet and Internet Management

(G) SPECIFICATION TABLE SHOWING DISTRIBUTION OF MARKS AND HOURS

Chapter No.	Name of Chapter	Hours	Marks			
			K	C	A	Total Mark
15.0	Information Service Trends and Issues	8	2	6	4	12
16.0	Establishing Information Service Centre	10	4	12	2	18
17.0	Electrical Equipments Requirements	10	4	8	2	14
18.0	Procurement Process: Hardware & Software	8	4	8	2	12
19.0	Project Management	10	4	8	2	14
20.0	Security Aspects	8	2	8	2	14
21.0	Maintenance & Network Management	10	4	8	4	16
	Total	64	24	58	18	100

Abbreviation's K=Knowledge level, C= Comprehension Level, A=Application level

(A) COURSE TITLE & CODE : PROGRAMING 'C' (CPE406)

(A) TEACHING AND EXAMINATION SCHEME:

Code	Name of Course	Teaching Scheme					Examination Scheme				Total Marks
		Pre-req.	L	T	P	C	Theory		Practical		
							<i>ET</i>	<i>PA</i>	ET	PA	
CSE-406	Programming in 'C'	G-202	2	-	3	5	75	25	50	25	175

(F) DETAILED COURSE CONTENT

CHAPTER – 1.0 INTRODUCTION TO 'C' PROGRAMMING

- Introduction
 - History and features of C, Algorithms, Flowcharts, structured programming Concepts

CHAPTER – 2.0 OPERATORS, EXPRESSIONS AND INPUT/OUTPUT STATEMENTS

- Character set of C
- Operators and Expressions
 - Arithmetic, Relational, Logical assignment operators, variables, constants, data types, expressions, data type conversion, key words, hierarchy of operators.
- 'C' Programme structure, Type declaration, Input and Output, (printf, scanf, getchar, putchar, getch, putch), Conversion specifiers in format control string, Library functions (Math functions)

CHAPTER – 3.0 CONTROL STATEMENTS

- Unconditional branching: goto statement
 - Conditional branching statements: if statement,
 - if- else, Nested 'if'
- Multiple branching statements: switch case statement

CHAPTER – 4.0 CONTROL LOOP STATEMENTS

- Loop Statements: 'for' statement, while statement,
- 'do-while' statement, 'break-continue' statement

CHAPTER – 5.0 ARRAYS & STRINGS

- Arrays:
 - Concept of one dimensional, two dimensional and
 - Multi-dimensional array, array declaration, Array and initialization, operations on one and two-dimensional arrays.
- String Manipulations
 - Strings, get, puts, string operations, string function (concatenation, comparison, length of a string).

CHAPTER – 6.0 FUNCTIONS

- Library and User-Defined Functions
 - Concepts of library functions, user-defined
 - Functions, local and global variables, storage class, Parameter passing mechanisms

CHAPTER – 7.0 POINTERS

- Declaring and using pointer type variables
- Operation on pointer variables
 - Address operator, Indirection operation, increment in pointers and scale factor
 - Using malloc function
- Pointers and arrays, pointers and functions

(G) SPECIFICATION TABLE SHOWING DISTRIBUTION OF MARKS AND HOURS

Chapter No.	Name of Chapter	Hours	Marks			
			K	C	A	Total Marks
22.0	Introduction to Programming in 'C'	2	2	2	2	6
23.0	Operators, expressions and Input/output statements	4	4	4	2	10
24.0	Control statements	4	2	6	4	12
25.0	Control Loop statements	4	2	6	2	10
26.0	Arrays & strings	4	2	6	2	10
27.0	Functions	8	4	6	5	15
28.0	Pointers	6	2	8	2	12
Total		32	18	38	19	75

Abbreviations: K=Knowledge level, C= Comprehension Level, A=Application level