

## **Vikram University, Ujjain**

**Board of studies in Computer science (Faculty of Engineering Science)**

**SYLLABUS of**

## **PG Diploma in Tally & ERP**

**Exclusively for University Teaching Department (ICS, VUU)**

**ONE YEAR PG Diploma in Tally & ERP**

**PROGRAMME of UTD (ICS, VUU)**

**(Effective from Academic Session 2020-21)**

**[Modified as according to the provision of “Ordinance ....”]**

**COURSE STRUCTURE**

**PG Diploma in Tally & ERP**

**First Semester**

<b>S N</b>	<b>Course code</b>	<b>Title</b>	<b>End term sem Exam</b>	<b>Internal</b>	<b>Max Marks</b>
	<b>PGIC-101</b>	<b>Fundamental of Computer</b>	<b>60</b>	<b>40</b>	<b>100</b>
	<b>PGIC-102</b>	<b>PC-Packages</b>	<b>60</b>	<b>40</b>	<b>100</b>
	<b>PGIC-103</b>	<b>Programming in C</b>	<b>60</b>	<b>40</b>	<b>100</b>
	<b>PGIC- 104</b>	<b>Digital Computer Organization</b>	<b>60</b>	<b>40</b>	<b>100</b>
<b>5</b>	<b>PGIC-105</b>	<b>Modern IT Technologies</b>	<b><u>50</u></b>	<b>-</b>	<b>50</b>
		<b>Total</b>			<b>550</b>

**COURSE STRUCTURE**

**PG Diploma in Tally & ERP**

**Second Semester**

<b>S N</b>	<b>Course code</b>	<b>Title</b>	<b>End term sem Exam</b>	<b>Internal</b>	<b>Max Marks</b>
	<b>PGIC-201</b>	<b>Financial and Management Accounting</b>	<b>60</b>	<b>40</b>	<b>100</b>
	<b>PGIC2102</b>	<b>Managerial Economics</b>	<b>60</b>	<b>40</b>	<b>100</b>
	<b>PGIC-203</b>	<b>Tally Accounting Software</b>	<b>60</b>	<b>40</b>	<b>100</b>
	<b>PGIC- 204</b>	<b>ERP</b>	<b>60</b>	<b>40</b>	<b>100</b>
<b>5</b>	<b>PGIC-205</b>	<b>Project</b>	<b><u>50</u></b>	<b>-</b>	<b>50</b>
		<b>Total</b>			<b>550</b>

## PGTE 101- I: Fundamental of Information Technology

### UNIT-1

**Computer Fundamental:** Characteristics of Computers, History of Computer, Evolution of Computers, Computer Generations and Types of Computer. **Components of a Computer:** Registers, instruction Set, Bus Architecture. **Computer Hardware:** Input Devices, Output Devices. **Storage Devices:** Primary Storage capacity, Memory Types, Memory Measuring Units, Secondary Storage. Software & Software Types, Computer Languages, Compiler, Interpreter.

### UNIT-2

**Introduction of Programming:** Procedure Oriented Programming, Object oriented programming, Concepts used in OOP, Benefits of OOP, Main advantages and disadvantage of OOP, Applications of OOP, OOP vs. POP.

### UNIT-3

**Operating System Overview:** Computer System Startup, Computer System Structure, computer system components, operating System classifications, operating System Services, Major Functions of operating system, Process Management, CPU Scheduling, Scheduling Criteria. **Memory and File Management:** Memory Management Requirements, Swapping, Memory Management Techniques.

### UNIT-4

**Introduction to DBMS:** File System, Traditional File Oriented Approach, DBMS Advantages and Disadvantage, Role of DBMS, Three views of data, DBMS Architecture. Data Models, Data Independence, Major components of DBMS, Data Dictionary, Types of Users, DBMS applications, Keys in Databases, Database Languages.

### UNIT-5

**Introduction to computer Networks:** computer Network Definition, Importance of Networking, Types of Networks, Network Topology, Advantages and Disadvantage of computer Networks, Applications of computer networks, Reference Model, Internet, introduction to Internet Technology, Electronic Mail, World Wide Web.

### References:

1. Operating Systems Concepts, A. Silberschaz, P.Galvin, G.Gagne, John Wiley & Sons
2. Object Oriented Programming in C++, Robert Lafore, Galgotia Publication.
3. Data base management systems vol. 1., Date C.J.
4. Fundamental of Computer Science & IT, Singh Umesh Kumar, Jain S., Maheshwari A., SSDN publications New Delhi,
5. Data Communications and Networks, Godbole A, Tata Mccraw-Hill Publications.

## PGTE- 102 :PC-Packages

### UNIT-1

**MS windows:** Introduction to MS windows; Features of windows; working with windows; My computer & Recycle bin; Desktop, Icons and windows Explorer; Screen description & working styles of windows; Dialog Boxes & Toolbar; working with files & Folders, Simple operations like copy, delete, moving of files and folders from one drive to another; Accessories and. windows settings using control panel-setting common devices using control panel, modem, printers, audio, network, fonts, creating users, internet settings, Start button & program lists ;Installing and uninstalling new Hardware & software program on your computer.

### UNIT-2

**MS word Basics** - Introduction to MS office; introduction to MS- word; Features & area of use, working with MS- word; Menus & commands; Toolbars & Buttons; shortcut Menus, wizards & Templates, creating a New Document; Different page views and Layouts; Applying various Text Enhancements; working with - Styles, Text .Attributes; paragraph and Page. Formatting; Text Editing using various features; Bullets, Numbering, Auto formatting, Printing & various print options.

### UNIT-3

**Advanced Features of MS- word-** Spell check, Thesaurus, Find & Replace; Headers & Footers: Inserting- Page Number, Pictures, Files, Auto texts, Symbols etc.; working with columns, Creation and working with Tables including conversion to and from text; Margins and Space management in Documents.

### UNIT- 4

**MS Excel:** Introduction and area of use; working with MS Excel: concept of workbook and worksheet; Using Wizards; Various Data Types; Using different features with Data, Cell and Texts; Inserting, Removing & Resizing of Columns & Rows; Working with Data & Ranges; Different views of Worksheet; Column Freezing, Labels, Hiding, Splitting etc.; Using different features of Data and Text; Use of Formulas, Calculation & Functions; Cell formatting including Borders and Shading; Working with Different Chart Types; Printing of Workbook & Worksheets with Various options.

### UNIT-5

**MS PowerPoint:** Introduction and area of use; Working with MS PowerPoint; Creating a New Presentation; Working with Presentation; Using Wizards; Slides & its Different Views; Inserting, Deleting and Copying of Slides; Working with Notes, Handouts; Columns and Lists; Adding Graphics, Sounds and Movies to a slide; Working with PowerPoint Objects; Designing and Presentation of a Slide Show; Printing presentations; Notes, Handouts with print options.

### References:

1. Windows XP Complete Reference. BPB publications
2. MS Office XP complete BPB Publication.

## PGTE-103-Programming and Problem Solving in C

### UNIT - 1

Problem identification analysis, design, coding, testing & debugging, implementation, modification & maintenance, algorithms & flowcharts, Characteristics of a good program - accuracy, simplicity, robustness, portability, minimum resource & time requirement, modularization; documentation, naming variables; Top down design; Bottom-up design.

### UNIT 2

History of C, Structure of a C program, Data types, Constant & Variable, Operators & expressions, **Control Constructs** - if-else, for, while, do-while, Case statement, Arrays, Type modifiers & Storage classes, Ternary operator, Type conversion & type casting.

### UNIT -3

Functions, Arguments, return value, Parameter passing - call by value, call by reference, return statement, Scope, visibility and life time rules for various types of variable, static variable, calling a function, Recursion - basics, comparison with iteration, tail recursion, when to avoid recursion examples.

### UNIT 4

Special constructs - break, continue, exit, goto & labels; pointers - & and \* operators, pointer expression, pointer arithmetic, String, Pointer to function, Function to parameter, structure - basic, declaration, membership operator, pointer to structure, referential operator, self-referential structures, structure within structure, array in structure, array of structures, Union - basic, declaration: Enumerated data type, Command line arguments.

### UNIT 5

File handling and related functions: printf & family, c preprocessor- basics, # Include, # define, # undef, conditional compilation directive like #if, #else, #endif, #ifdef and #ifndef, Variable argument list functions.

### Reference Books:

1. Kernighan & Ritchie: The C programming language, PHI
2. Cooper Mullish: The Spirit of C, Jaico publishing-House Delhi
3. Kanetkar Y: Let us C 4, Kanetkar Y: Pointers in C.

## **PGTE- 104: Digital computer Organization**

### **UNIT-1:**

Digital components: Functional units of a computer, logic gates, Minimization of Boolean Expressions, Flip-Flips, Decoders, Encoders, Multiplexers, Counters, and Registers.

### **UNIT-2:**

Data Representation: Number systems, Representations of signed and unsigned numbers, alphanumeric codes, Addition of binary numbers, subtraction, 2's complement, and Floating point number representation.

### **UNIT-3:**

Register Transfer Language & Micro-operations: Concepts of the Bus, Timings in Register transfer, Languages used for data transfer in registers, Data movement from/to memory.

### **UNIT-4:**

Arithmetic circuits, Half adder, full adder, N-bit adder, Logical micro operation, arithmetic logic unit. Instruction sets for basic computer: Addressing modes, Instruction cycles, Control signal generation.

### **UNIT-5:**

Central Processing Unit: General register organization, Memory stacks, Instruction types, Interrupts, Instruction pipelining, Arithmetic pipelining. .

### **Reference Books:**

1. P. N. Basu, Computer Organization and Architecture, Vikas Publication, 2nd Edition.
2. H. Patterson, Computer Architecture: A Quantitative approach, Elsevier, 5th Edition.
3. W. Stalling, Computer Organization and architecture, Pearson Education Asia, 5th Edition.
4. Donald Leach & Albert Malvino, Digital Principles & Applications, McGraw Hill, 7th Edition.

## PGTE-105: Modern Technologies of Computer Science

### UNIT 1:

**Introduction to Computer Security:** The Challenges of Computer Security, The OSI Security Architecture. Security Attacks (Passive Attacks, Active Attacks). Security Services (Authentication, Access Control, Data Confidentiality, Data Integrity, Nonrepudiation, Availability Service).

### UNIT 2:

**Introduction to Artificial Intelligence:** What is AI ? The Importance of AI. AI and related fields. Introduction to Natural Language Processing., Application of AI.. Basic Problem solving methods: Production systems-state space search, control strategies, Breadth first search, Depth first search, Heuristic search.

### UNIT 3:

**Introduction to Machine Learning :** Learning Problems - Perspectives and Issues - Concept Learning - Version Spaces and Candidate Eliminations - Inductive bias - Decision Tree learning - Representation Algorithm- Heuristic Space Search.

### UNIT 4:

**Introduction to IoT:** Definition, Characteristics, Conceptual framework, Architectural view. Technology involved - Server-end technology, Hardware and Software components, Development tools & Open source framework, APIs & Device interfacing components, Platforms & Integration tools, Sources of IoT, Advantages and Disadvantages of IoT.

### UNIT 5:

**Introduction to Data Mining:** Definitions, KDD v/s Data Mining, DBMS v/s Data Mining , DM techniques, Mining problems, Issues and Challenges in DM, DM Application areas.

### Reference Books:

1. Charles P. Pleege, "Security in Computing", Pearson Education Asia, 5th Edition, 2001.
2. William Stallings, "Network Security Essentials: Applications and standards", Person Education Asia, 2000
3. Dan W. Patterson: Introduction to Artificial Intelligence and Expert System, Prentice Hall.
4. Adrian McEwen, Hakim Cassimally, "Designing the Internet of Thing", Wiley
5. 2. Rajkamal, "Internet of Things: Architecture and Design Principles", McGraw Hill Educ
6. Data Mining Techniques ; ArunK.Pujari ; University Press.

**PGTE201: Financial and Management Accounting**

**UNIT 1**

The basic Financial Accounts, types of accounts, Rules of Entries of transactions, Journals. Cash Book – Types, Format of Cash Book, Balancing of Cash Book, Subsidiary books – Purchase, Sales. Purchase return and sales return. Ledger, posting of entries.

**UNIT 2**

Trial Balance, Rectification of errors, adjustment entries. Depreciation and Inflation.

**UNIT 3**

Principles of Cost Accounting, Valuation of Stocks, Allocation of Overheads, Methods of material issues.

**UNIT 4**

Pay roll department, preparation of pay roll, Preparation of wage record, Methods of payments of wages, overview of computerized method for payroll preparation

**UNIT 5**

Inventory account and store record, inventory or stock control and cost accounting, Department demand and supply method of stock control. Classification and condition of material Report on material handling. Overview of computerized accounting process – Introduction to accounting system software, their features and some basic operations.

**Reference Books:**

**Books:**

1. Mazda, Engineering Management, Addisen Wesley
2. S P Gupta, Management Accounting
3. I.M.Pandey, Financial Management, Vikas Publication.



## PGTE 202- Managerial Economics

### UNIT 1

**Management Concept:** Managements, Administration, Organization Management and Administration, Difference and Relationship between Organizations, importance of Management, characteristics of Management

### UNIT 2

Scientific Management, Principles of Management, Process of Management, Functions of Management, Levels of Management, Project Management

### UNIT 3

**Decision Making:** Introduction and Definition, Types of Decision, Techniques of Decision Making, Decision making under uncertainty, Decision Making under risk

### UNIT 4

**Managerial Economics:** Introduction of Managerial Economics- Factors Influencing Manager, Micro and Macroeconomics, Theory of the Cost Theory of the Firm Theory of Production Function, Production System

### UNIT 5

Input-Output Analysis, Micro Economics Applied to plants and industrial undertakings, Productivity, Factors affecting Productivity, Increasing Productivity of Resources.

### Reference Books:

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| 1. The Practice of Management                      | :Peter Drucker, Harper and Row               |
| 2. Essentials of Management                        | :Koontz Prentice Hall of India               |
| 3. Management                                      | :Staner Prentice Hall of India               |
| 4. Principle & Practice of Management              | :T.N. Chhabra ; Dhanpat Rai New Delhi        |
| 5. Industrial Organisation & Engineering Economics | :T.R. Banga & S.C. Sharma, Khanna Publishers |
| 6. Industrial Engineering & Management             | :O.P. Khanna, Dhanpat Rai                    |
| 7. Managerial Economics                            | : Joel Dean : Prentice Hall of India         |

## PGTE– 203 Tally Accounting Software

### UNIT 1

**User Interface and Company Management:** Introduction to Tally ERP9, Installing Tally ERP9 License Server, Creating a Company, Data Path for Tally ERP9 Companies, Altering and Deleting Company, Gateway of Tally and User Interface, Masters – Ledgers, Understanding Ledgers, Creating Ledgers, Creating Multiple Ledgers, Altering and Deleting Ledgers, Practical Examples

### UNIT 2

**Masters – Groups:** Understanding Groups, Creating Groups, Altering and Deleting Groups, Practical Examples, Masters – Bill wise Debtors and Creditors Ledgers, Using Practice Files, Configuring Bill wise Details, Examples on Creating Billwise Ledgers, Payment Voucher, Understanding Default Voucher Payment in Single Entry Mode (Examples) Payment in Double Entry Mode (Examples), Day Book, Understanding Day Book Reports, Altering and Deleting Transactions

### UNIT 3

Pre-Allocation of Bills, Pre-Allocation of Bills, Practical Examples, Receipt Voucher, Understanding Receipt Vouchers, Practical Examples, Contra and Journal Voucher, Understanding Contra for Banking, Practical Examples on Contra Vouchers, Practical Examples on Journal Vouchers, Cheque Printing, CTS Cheque Printing System, Practical Examples, Masters : Inventory, Understanding Inventory, Integrating Accounts and Inventory, Practical on Stock Group, Practical on Godown and Locations, Practical on Stock Category Practical on Units of Measure, Practical on Stock Items, Manual Stock Valuation without Inventory

### UNIT 4

**Billing Features :** Zero Valued Entries, Different Billing and Actual Quantity, Additional Cost of Purchase, Discount Column on Invoices, Purchase Order Processing, Purchase Order Process, Purchase Order Voucher with Examples, Receipt Note (Inventory) with Examples, Rejection-Out Voucher with Examples, Sales Order Processing, Sales Order Process, Sales Order Voucher with Examples, Delivery Note (Inventory) with Examples, Rejection-IN Voucher with Examples, Debit and Credit Notes, Debit Note Returns with Examples, Credit Note Returns with Examples, Bank Reconciliation, Understanding BRS Process, Practical Examples.

### UNIT 5

Manufacturing Vouchers: Bills of Materials, Practical Examples, Job Costing and Examples, Batch Wise Details, Understanding Inventory Batches, Practical Examples, Re-Order Level, Understanding ROL Practical Examples. Voucher Types and Class, Voucher Types and Masters, Practical Examples, Voucher Class and Masters, Practical Examples.

#### Reference:

1. Tally and ERP software Text Book of Rich

## PGTE – 204 Enterprises Resource Planning

### UNIT 1

**Overview of business Functions:** Business function in an Organisation, material management, scheduling, shop floor control, forecasting, accounting and finance, human resources, Productivity management. **Typical business Processes:** Core Processes, Product control, sales order Processing, purchases, administrative Process, human resource, finance, Support processes, marketing, strategic Planning, research & development.

### UNIT 2

**Problems in traditional functional view** Need for integrated process views information as a resource. motivation for ERP. **Evolution of information systems:** Electronic Data Processing (EDP) systems, management information systems, Executive information Systems, Information needs of Organization, ERP as an integrator of information needs at various levels, Decision making involved at the above level.

### UNIT 3

**ERP Models/Functionality:** Sales order Processing, MRP scheduling, forecasting, maintenance, distribution, finance. Features of each of the models, description of data flows across each module, Overview of the supporting databases, technologies required for ERP. **Implementation Issues:** Pre implementation issues, financial justification of ERP, evaluation of commercial software, during implementation issues, reengineering of various business processes, education and training, project managements, Post implementation issues, performance measurement.

### UNIT 4

Introduction to organisations and individuals, what is an organization, components of organization, nature and variety of organisation (in terms of objectives, structure etc.) models of analyzing organisation phenomena. Organisational and business variables, organisation in the Indian context, institutions and structures, basic roles in an organisation etc., perception attitudes, motives (achievement, power and affiliation). Commitment: Value creativity and other personality factors. Profile of a manager and an entrepreneur.

### UNIT 5

Interpersonal and group processes, Interpersonal trust, understanding the other person from his/her point of view, interpersonal communication, listening, Feedback counseling, transactional analysis, self-functioning, team decision making, team conflict resolution, team problem solving. Organisational structure and integrating interpersonal and group dynamics elements of structure. Function of structure, determinants of structure, dysfunctionalities of structures, structure technology, environment people relationship, principles underlying design of organisation, organisational change, integrating cases.

#### Reference Books:

1. Dr. U. K. Singh and Gaurav Agrawal, Enterprise Resource Planning, Shiva Prakashan, Indore
2. V.K. Garg and N.K. Venkitakrishnan, Enterprise Resource Planning Practices Prentice Hall
3. J.Kanter, Managing with information, Prentice Hall(I) 1996, New Delhi
4. S-Sadagopan, Management Information Systems, Prentice Hall(I) 1996 New Delhi,
5. Dwivedi R.S. "Human Relations and Organisational Behaviour A Global Perspective" Macmillan India Ltd. Delhi 1995.
6. Arnold J. Robertson Laven and Cooper Cary. L. "Work Psychology: Understanding Human Behaviour in the Workplace" Macmillan India Ltd. Delhi 1996.