

# MAHARAJA CHHATRASAL BUNDELKHAND UNIVERSITY, CHHATARPUR (M.P.)



नियमित (Regular)

Department of Higher Education Govt. of M.P.  
single paper system Semester wise Syllabus

उच्च शिक्षा विभाग म.प्र. शासन

PGDCA कक्षाओं के लिये एकल प्रश्नपत्र प्रणाली सेमेस्टर के अनुसार पाठ्यक्रम  
केन्द्रीय अध्ययन मण्डल द्वारा अनुशंसित



## PGDCA

1. The PGDCA is a one year Post Graduate Diploma in Computer. Applications.
2. The eligibility. for admission to PGDCA is Course :-  
45% Marks in aggregate in B.SC/B. E./ M.Sc. / M. Stat./M.A. ( Economics)  
MBA OR B.A./B.Com. With at least one of the following Major subjects :-  
(a) Mathematics (b) Statistics  
(c) Economics (d) Commerce.
3. The Minimum Marks Required to pass the PGDCA Shall be as follows: -  
(1) 33% in each written paper/ Practical examinations Separately.  
(2) 33% in Project and Viva Voce.  
(3) 36% in the aggregate. ( 33% or More and less than 36% Fail in aggregate)
4. The Result of the candidate Will be declared as per the following.  
(1) First Division 60% Or above  
(2) Second Division 48% and above and less than 48%  
(3) Third Division 36% and Above and less than 48%
5. The Medium of instruction and examination shall be English.
6. There is no provision of supplementary examination.
7. A candidate who fails in the examination can appear as an ex-student (within next two years only). However he can take fresh admission to PGDCA whenever he wants.
8. The failed Candidates who appear as ex- student will be examined in current Syllabus only. There will be no separate papers for old Course.
9. An Ex-student shall not appear in the project Viva once he has cleared it. If he takes admission again in the PGDCA, he has to do every thing fresh.

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# Scheme of Examination

## Semester - I

S.No.	Paper Code	Paper Name	Theory	Sessical
1.	101	Information Technology	75	25
2.	102	PC Software	75	25
3.	103	Programming Principal	75	25
4.	104	Computer Architecture	75	25
5.	105	Software Laboratory	100	-

## Semester - II

S.No.	Paper Code	Paper Name	Theory	Sessical
6.	201	System Analysis & Design	75	25
7.	202	Networking & Internet	75	25
8.	203	Database Management System	75	25
9.	204	Project Werks	100	-
10.	205	Software Laboratory	100	-

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**INFORMATION TECHNOLOGY**

**Paper Code : 101**

Theory - 75  
Sessional - 25  
Total = - 100

- Unit – I** Brief History of development of Computer System Concept, Computer System, characteristics. Capability and limitation Type of computer, Generation of computer basic, components of computer system, control Unit, ALU, Input-Output Function and characteristics.
- Unit –II** Input-Output Unit- Keyboard, Mouse trackball, Joystick, digitizing, table Scanner, Digital Camera, MICR-OMR, Barcode Reader, Voice recognition , Light pen , Touch Screen, Monitor, characteristics. Pixels. Resolution, Refresh rate, Dot pitch, Video Standard VGA. SVSXGA etc. Printer and Types Daisy wheel, dot matrix, Inkjet Laser, Line printer, plotter.
- Unit-III** Storage fundamental- primary Vs Secondary, Data Storage and retrieval methods, sequential, Direct and Index sequential, SDMM, various storage device- Magnetic tape, Magnetic Disk, Cartridge tape, Hard Disk, Driver, floppy disks, Optical disks, CD, flash drivers, Video disk, Physical structure of floppy and hard Disk.
- Unit-IV** Software Concept, Types of Software, System Software, Application. Software, Operating System, PCDOS, Booting Process, (Programming language, Assembler, Compiler and interpreter, virus, types of virus, Number System- Binary, decimal, octal, hexadecimal and their Conversion method.)
- Unit-V** Information Concept and processing, Information processing task, Information technology and its use in business, industry, home, medicine, engineering, banking, manufacturing. Virtual reality etc.

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**PC SOFTWARE**

**Paper Code : 102**

Theory	- 75
Sessional	- 25
Total =	- 100

- Unit – I** MS Word: Starting Word, Components of Word- Window. Mouse operations. Keyboards fonts, Numbering, bullets, Indenting, spelling checks, Creating template tables.
- Unit – II** MS- Excel Description of worksheet. Adjusting column width and Row heights, style dialog box, borders and shading, cell formatting. auto format, Entering formulas, Menu toolbar and Icons, series fill, formatting text, Inserting columns, data range, chart creations, copying Data between worksheets, sorting data/data filters, functions PMT, PV, VLOOKUP Functions, Data Validation, Analysis tools.
- Unit –III** MS Power Point: Power Point, Winder, Menus, slide show, Toolbar, formatting, creating a presentation, inserting dip arts, sizing box and inserting picture, entering dad to graph. Organization chart, design templates. Master slide, color box, templates. Adding a chart table, slide sorter, adding effects, sound effects, adding action buttons. slide timing. Adding and viewing speaker notes. Net show.
- Unit –IV** MS ACCESS: Database parts of an MS Access window, creating a new database. creating a new table, saving a database, creating table through design, view, relationship, form, Using forms wizard, design view, customize the form, switchboard, Queries, using filter, creating a tools query, parameter query, action query, query using AND & OR creating a report in Design view, adding graphics to a report, adding sub report using access tools.
- Unit-V** MS Outlook: Compose, Send, reply forward and deleting e-mail messages in outlook, store messages, creating an address book, create a signature, find flag and track e- messages, using mail templates, soil and group mail, using rules wizard, managing remote mail, customize the mail menus and taskbar, contacts windows, Phone call dialog box, scheduling appointments, and events using Net meeting, Tasks, sending a fax web site addresses Microsoft outlook Newsreader.

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**PROGRAMMING PRINCIPAL**

**Paper Code : 103**

Theory - 75  
Sessional - 25  
Total = - 100

- Unit – I** Introduction:- Problem Solving aspects top-down design and stepwise refinement. Basic algorithm, flow charting defining data types. Data Input. output, control structure procedure and functions user defined function. arrays., record and files.
- Unit – II** Importance of C: structure of C program, character , keyword identifiers, constants and Variables, data type and declaration, operations, increment and decrement. Expressions.
- Unit – III** Input and output in C programs, conditions statement, Implementing loops. array manipulations, functions, processing character string data types, pointers. files and file handling in C
- Unit – IV** A Profile of visual basic, Menu bar, toolbar, project explorer, toolbar, properties Window, form layout, Immediate window, concept of VB projects, opening, renaming and saving the projects, running the Application, Variable, array, procedure, function, loop statement.
- Unit – V** Active X control, list box, combo box, image box, common dialog box, graphics. Scrollbar, slider bar, MDI form , menus, connectivity with database.

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**COMPUTER ARCHITECTURE**

**Paper Code : 104**

Theory - 75  
Sessional - 25  
Total = - 100

- Unit – I** Operating system , Objective and function Types of Operating system serial. Batch. Time sharing, Distributed, Multiprogramming, process State-two state-five states. types of scheduling, scheduling. Algorithm.
- Unit –II** Memory Management cache memory, virtual memory, paging segmentation, Disk scheduling policies. page replacement policies, fetch policy, file system.
- Unit – III** Basic computer organization instruction code operation code Register Organization Instruction set. Instruction cycle, Memory reference Design of basic computer machine language, Assembly language.
- Unit – IV** Memory Hierarchy, internal memory. RAM Organization and design External Memory magnetic memory, formatting and characteristics. RAID, CDROM, CD-R/W, flash memory.
- Unit – V** Input and output External device, To module and their function, device driver programmed I/O interrupt driven I/O DMA interface, SCSI devices, RISC and CISC.

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**SYSTEM ANALYSIS & DESIGN**

**Paper Code : 201**

Theory - 75  
Sessional - 25  
Total = - 100

- Unit - I** The system concept, characteristics, Element and types of a system  
The system development life cycle. Software process models, linear  
prototype and RAD Models.
- Unit - II** JAP, System planning, and initial investigation, the tools of structured  
analysis DFD data dictionary decision tree and pseudo codes. decision  
tables system performance definition description of output, feasibility  
study cost, cost/Benefit analysis.
- Unit - III** The process and stage of system design, design methodologies  
development activities Input design output feasibility study cost,  
Cost/Benefit Analysis.
- Unit - IV** System testing and quality Assurance, Why system testing. What do  
we test for trend in testing role of data processing auditor, training and  
documentation.
- Unit - V** Implementing and software maintenance, Post implementation review,  
Hardware/Software selection and the computer contract, suppliers.  
procedure for hardware / Software Selection financial considerations  
in selections the computer the computer, contract, system, security,  
Disaster recovery planning.

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**NETWORKING & INTERNET**

**Paper Code : 202**

Theory - 75  
Sessional - 25  
Total = - 100

- Unit – I** Computer network and their uses communication process communication types, half duplex, full duplex communication protocol, communication channel, twisted coaxial fiber ODHC, serial and parallel communication, modem, Bridge, Router working and characteristics types of network connection dial up, leased line, Broad band base band types of network – LAN, WAN, MAN, Network, Topologies Ring, Bus, Star Mesh, Tree, and Bridges, Hub, Router, repeater gateway.
- Unit – II** Hardware and Software for network reference models OSI Model, TCP/IP Model, Network security Cryptography, Secret key, public key algorithm authorization.
- Unit – III** Email- Concept, POP and web based e-mail mints address basics of sending and receiving email, protocol, free- email service, FTP and its usage Telnet concept remote login protocols, Internet chatting, Voice chat and text chat.
- Unit – IV** WWW – History working, web browser its functions concept of search engine, HTTP, URLS, web server, Web protocol. HTML – Concept of Hypertext version of HTML Head and Body section, Images Hyperlink, Background and color Controls, Table layout and presentation, use of font size and attribute list types and its lags.
- Unit – V** E-Commerce concept, Advantage and disadvantage, Internet and E-Business applications, Electronic payment system, Introduction, Types of electronic payment system, Smart cards and credit card, based electronic payment system.

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**DATA BASE MANAGMENT**

**Paper Code : 203**

Theory - 75  
Sessional - 25  
Total = - 100

- Unit – I** Database design, advantage of database system redundancy consistency, sharing, standards integrity, security data independence, concept of distributed database. DBMS.
- Unit – II** Architecture of database system, schema, subschema logical and concepts view data description language, data manipulation language. database administration.
- Unit – III** Data models, relational model- structure tuple attribute, relation Primary key. candidate key, alternate key relational calculation relational algebra set. difference. Cartesian product selection. Intersection. Normal forms firsts second and third degree forms.
- Unit – IV** Database file. Record field type, creating database file structure entering removing updating, searching, sorting, viewing, record closing database. Index-creating index, index - ascending and descending order, saving index files.
- Unit – V** SQL – SQL functions. character function. Number function data function Data conversion function miscellaneous functions. Miscellaneous function Joins. -----sub queries view. synonyms sequence index, creating ----- Modifying table.

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