

GOVERNMENT POLYTECHNIC COLLEGE, KOTA (RAJ.)

SYLLABUS BREAK-UP (SESSION 2015-16)

SUBJECT CODE : **105** SUBJECT NAME : **COMPUTER AND IT FUNDAMENTALS**

FACULTY NAME : **RAJESH CHANDRA DADHICH**

DESIGNATION : **LECTURER (COMPUTER**

TOPIC	CLASSES REQUIRED TO COVER TOPIC	MONTHS IN WHICH THE TOPIC WILL BE COVERED	ACTUAL DATE OF COVERING OF THE TOPIC	REASON FOR NOT COVERING THE TOPIC IN DUE TIME	E-CONTENTS PROVIDED TO STUDENTS RELATED TO TOPIC
Computer: An Introduction	1	AUGUST			
Generation of Computers & Types : PC, PC/XT, PC/AT, Main Frame, Super, Lap Top, Pam Top	1	SEPTEMBER			
Data Representation, Bit, Nibble, Byte, Word	1	SEPTEMBER			
Number System : Decimal, Binary, Hexadecimal & their Conversions	2	SEPTEMBER			
Arithmetic Operations (Addition, Subtraction using Binary Number System	2	SEPTEMBER			
1s , 2s Compliment, Coding Technique : BCD, EBCDIC, ASCII	1	SEPTEMBER			
Idea of: Hardware, Software, Firmware, Free ware, Human ware	1	OCTOMBER			
Computer Languages and Translators: Machine, Assembly, High Level Language, Scripting Language, Object Oriented Language, Platform Independent Language	2	OCTOMBER			
Translators: Assembler, Interpreter, Compiler	1	OCTOMBER			
Introduction to Computer: Central Processing Unit (CPU), Memory Unit, Input/ Out Devices : Keyboard, Mouse (Optical), Digitizer, Scanner, Web Camera,	2	OCTOMBER			
Monitor (CRT, TFT) , Printers, Plotters, Bar Code Reader, Secondary Storage Devices : Floppy, Hard Disk, CD, DVD, Flash Drive	1	NOVEMBER			
Block Diagram Showing Interconnection of Computer Parts	1	NOVEMBER			
Operating System : Definition of Operating System (OS), Types of OS Single user, Multi user, Multi Programming, Time Sharing, Multi Processing,	2	NOVEMBER			
Introduction to Windows XP: Introduction to Windows Environment, Parts of Windows Screen, Icon, Menu, Start Menu, Minimising, Maximising, Closing Windows	2	NOVEMBER			
Windows Explorer, Recycle Bin, Clipboard, My Computer, My Network Places, Control Panel : Adding New Hardware and Software, Display, Font, Multimedia, Mouse, International System, Accessories: Paint, Media Player, Scan disk, System Information	2	NOVEMBER			

Information Concepts and Processing, Definition of Data, Information , Need of Information, Quality of Information	2	DECEMBER			
Concepts of Data Security, Privacy, Protection, Computer Virus and their types, Scanning & Removing Virus	2	DECEMBER			
Computer and Communication: Need of Data Transmission, Data Transmission Media, Baud rate and Bandwidth, Digital and Analog Transmission Serial and Parallel Data Transfer, Protocols, MODEM.	2	DECEMBER			
Networking of Computers : LAN, WAN, MAN, Blue tooth, LAN Topologies: Bus, Star, Ring, Hybrid Introduction to Ports : RS232, IEEE 488, PS2, USB, UTP	2	JANUARY			
Internet: Introduction to Internet, Bridges, Routers, Switch, Gate way, www, Web Site, URL, e-mail, e-Commerce Web browsing, Web page	2	JANUARY			
Introduction to Hyper text & HTML and Introduction to http & ftp Protocol	2	JANUARY			
Information Processing: Word processor Introduction to MS-Word Starting MS-Word Special Features of MS-Word Using Help, Opening Document, Typing and Editing	2	FEBURARY			
Copying, Inserting, Moving, Deleting, Copying from One Document to Others . Undo, Redo, Spell Check, Find and Replace Formatting, Characters and Fonts Spacing	2	FEBURARY			
Inserting Symbols, Paragraphs. Page Setting, Header and Footer, Page Breaks, Borders and Shading, Print Preview and Printing	2	FEBURARY			
Tables and Columns, Mail Merge, Auto Text and Auto correct, Introduction to Macro, Electronic Spread Sheet, Introduction to MS-Excel , Working with Spread Sheet, Editing the Worksheet , Worksheet Formatting	2	FEBURARY			
Formula Entering, Function Wizard, Saving and Printing Work Book, Analysis Tools, Data Tools, Charts	2	MARCH			
Linking Work Sheets, Report Wizard, Data Base Application	2	MARCH			
Data Base Components, Working with Database, Creating Excel Database, Adding Records using Data Form, Deleting Records using Menu Command, Deleting Records using Data Form Editing Records, Finding Records based on Criteria	2	MARCH			
Power Point: Introduction to Power Point, Creating a Presentation/Slide, Adding Animation in Slide, Running a Slide Show	2	MARCH			
Revision classes and class test	10	MARCH & APRIL			
TOTAL	60				

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SYLLABUS BREAK-UP (SESSION 2015-16)

SUBJECT CODE : 105 Pr

SUBJECT NAME : COMPUTER AND IT FUNDAMENTALS

FACULTY NAME RAJESH CHANDRA DADHICH

DESIGNATION : LECTURER (COMPUTER SC. & ENGG.)

TOPIC	CLASSES REQUIRED TO COVER TOPIC	MONTHS IN WHICH THE TOPIC WILL BE COVERED	ACTUAL DATE OF COVERING OF THE TOPIC	REASON FOR NOT COVERING THE TOPIC IN DUE TIME	E-CONTENTS PROVIDED TO STUDENTS RELATED TO TOPIC
Study of Computer Components	2	AUGUST			
Practice of Computer Booting Process in XP	1	SEPTEMBER			
Demonstration of Windows Environment	2	SEPTEMBER			
Practice of using My Computer, Windows Explorer	2	SEPTEMBER			
Practice of using Control Panel	2	SEPTEMBER			
Practice of My Network Places	2	OCTOBER			
Practice of CD and DVD Writing	1	OCTOBER			
Practice of Paint	2	OCTOBER			
Installation of Windows XP by using NTFS File System.	2	NOVEMBER			
Demonstration of Network	2	NOVEMBER			
Visit to Internet Site, Creating e-mail Account , Sending and Receiving e-mails. Sending e-mail with Attachment & Signature, Searching Web Page/ Site using Search Engine : (eg. google.com, yahoo.com, altavista.com etc.)	8	NOVEMBER			
Exercise Based on MS-Word: Document Preparation, Printing Document, Mail Merge usage Draw Table	8	DECEMBER			
Exercise Based on Ms-Excel : Work Book Preparation, Printing Workbook , Data-base usage Draw Charts	8	DECEMBER			
Exercise Based on Power Point : Creating Slide Adding, Animations in Slide, Running Slide	4	JANUARY			
Creating Simple Web Page using HTML.	4	JANUARY			
revision and class test	10	MARCH & APRIL			
TOTAL	60				

GOVERNMENT POLYTECHNIC COLLEGE, KOTA (RAJ.)

SYLLABUS BREAK-UP (SESSION 2015-16)

SUBJECT CODE : **CS209**

SUBJECT NAME : **Internet & Web Technology**

FACULTY NAME : **RAJESH CHANDRA DADHICH**

Designation: **Lecturer (Selection Scale)**

TOPIC	LECTURE CLASSES REQUIRED TO COVER TOPIC	MONTHS IN WHICH THE TOPIC WILL BE COVERED	ACTUAL DATE OF COVERING OF THE TOPIC	REASON FOR NOT COVERING THE TOPIC IN DUE TIME	E-CONTENTS PROVIDED TO STUDENTS RELATED TO TOPIC
Internet concept, Establishing Connectivity on Internet	2	August			
Overview of TCP/IP, IP address	2	September			
Email: POP, SMTP	2	September			
www, File Transfer, Telnet	2	September			
Web Server, Web Client	2	September			
Introduction of HTML	2	October			
File Creation, Structure of HTML Programs	2	October			
HTML Tags, Heading, Titles and Footers	2	October			
Text Formatting, Text Styles, Text Effects	2	November			
Color and Backgrounds, Lists	2	November			
Adding Graphics, Tables	2	November			
Linking Documents, Frames	2	December			
Java script in web pages, Advantages of JavaScript	2	December			
Programming: Writing JavaScript into HTML, Data types and Literals, Variables	2	December			
Type Casting, Arrays, Operators and Expressions	2	January			
Conditional and Iterative Loops, Functions	2	January			
Dialog Boxes, Cookies	2	January			
Introduction to DHTML, Cascading Style sheets (CSS)	2	January			
Font attribute, Color, Background Text and Border	2	February			
List Attributes, Class, The ... 	2	February			
Java Script Style Sheet, The <DIV> ... </DIV> Tag,	2	February			

CGI, Use of CGI, Working of CGI	2	February			
Methods of Data Submission (GET and POST)	2	March			
Environment Variables, Process Form Information in CGI Program	2	March			
Basics of Perl, Strings, Scalar variables, Operators:arithmetic & comparision	2	March			
Control Program flow, Arrays, Hash Array	2	March			
Functions: String, Array, Mathematical and Time	2	April			
File Handling, STDIN & STDOUT	2	April			
Concept of Files and Directories, Open and Close Files, Reading and Writing Files	2	April			
Review important concepts and Doubts	2	April			
TOTAL	60				

GOVERNMENT POLYTECHNIC COLLEGE, KOTA (RAJ.)

SYLLABUS BREAK-UP (SESSION 2015-16)

SUBJECT CODE : **CS209 Pr**

SUBJECT NAME : **Internet & Web Technology**

FACULTY NAME : **RAJESH CHANDRA DADHICH**

Designation: **Lecturer (Selection Scale)**

TOPIC	PRACTICAL CLASSES REQUIRED TO COVER TOPIC	MONTHS IN WHICH THE TOPIC WILL BE COVERED	ACTUAL DATE OF COVERING OF THE TOPIC	REASON FOR NOT COVERING THE TOPIC IN DUE TIME	E-CONTENTS PROVIDED TO STUDENTS RELATED TO TOPIC
Installation of Web server and Web browser	6	Aug-Sep			
Practice for creating web pages using HTML Tags, text formatting,color,lists etc	4	Sep			
Practice for creating web pages using HTML Tags, tables, graphics,Linking documents, Frames etc	4	Sep			
Practice for clients side JavaScript using variables Type Casting, Arrays, Operators and Functions	4	Oct			
Practice for clients side JavaScript using Conditional and Iterative Loops, Functions	4	Oct			
Practice for clients side JavaScript Dialog Boxes, Cookies	4	Nov			
Practice for DHTML script using Font attribute, Color, Background, Text and Border	4	Nov			
Practice for DHTML script using List Attributes, Class, The ... Tag	4	Dec			
Practice for DHTML script using Java Script Style Sheet, The <DIV> ... </DIV> Tag	4	Dec-Jan			
CGI: Server side script using GET & Post	4	Jan			
CGI: Environmet variable, information via forms	4	Feb			
Simple Perl scripts using Strings, Scalar variables, Operators	4	Feb			
Perl Scripts using Control Program flow, Arrays, Hash Array	4	Feb-Mar			
Perl Scripts using Functions: String, Array, Mathematical and Time	4	Mar			
Simple Perl scripts using Files	2	Mar-Apr			
TOTAL	60				

GOVERNMENT POLYTECHNIC COLLEGE, KOTA (RAJ.)

SYLLABUS BREAK-UP (SESSION 2015-16)

SUBJECT CODE : **CS303**

SUBJECT NAME : **Unix shell Programming & Administration**

FACULTY NAME : **RAJESH CHANDRA DADHICH**

Designation: **Lecturer (Selection Scale)**

TOPIC	LECTURE CLASSES REQUIRED TO COVER TOPIC	MONTHS IN WHICH THE TOPIC WILL BE COVERED	ACTUAL DATE OF COVERING OF THE TOPIC	REASON FOR NOT COVERING THE TOPIC IN DUE TIME	E-CONTENTS PROVIDED TO STUDENTS RELATED TO TOPIC
Unix Introduction, Advantages & disadvantages	2				
Unix Architecture, Features of UNIX	2				
Basics of file, Structure of file systems	2				
File permission, File ownership	2				
Inodes, Partition	2				
Command structure and usage	2				
File management commands : ls, cat, rm, mv, cp,	2				
File management commands : chmod, cmp, diff, comm	2				
Directory management commands : mkdir, rmdir, cd, pwd	2				
General purpose utilities : more, ps, wc, printf or echo, lp	2				
banner, bc , cal, date, time, who, man, kill	2				
vi Editor : Three modes, Input mode, Adding and replacing text, Saving text and quitting – The ex mode	2				
The repeat factor, Command mode, Using operators in deleting and copying text	2				
Navigation, Pattern search, Joining lines	2				
Undo, Repeating the last command, Moving text from one file to another file, Search and replace	2				
Unix Shell, Different types of UNIX shell, Command line structure	2				
Shell interpretive cycle, Meta character, Pattern matching, Escaping , quoting	2				
I/O Redirection, Command arguments and parameters, Command substitution	2				
Shell Programming : Shell variables, Shell Script, Dot command	2				
Interactive execution (read), Command line arguments (\$1, \$2 etc), The && and	2				
Conditional statements : if , case, Loops : for, while, until	2				
Shell function, Interrupt handling (trap)	2				
System Administration jobs, Compressing files	2				

Finding files	2				
Mounting file system, File system checking	2				
Backing up files (tar, cpio)	2				
User management (add user, modify user ,remove user and change password)	2				
Understanding /etc/passwd, /etc/shadow, /etc/inittab	2				
Review n Dobt classes	4				
TOTAL	60				

GOVERNMENT POLYTECHNIC COLLEGE, KOTA (RAJ.)

SYLLABUS BREAK-UP (SESSION 2015-16)

SUBJECT CODE : **CS303 Pr**

SUBJECT NAME : **Unix shell Programming & Administration**

FACULTY NAME **RAJESH CHANDRA DADHICH**

Designation:**Lecturer (Selection Scale)**

TOPIC	PRACTICAL CLASSES REQUIRED TO COVER	MONTHS IN WHICH THE TOPIC WILL BE COVERED	ACTUAL DATE OF COVERING OF THE TOPIC	REASON FOR NOT COVERING THE TOPIC IN DUE TIME	E-CONTENTS PROVIDED TO STUDENTS RELATED TO TOPIC
Installing UNIX/LINUX operating system	4				
Practice for login, logout, and shutdown operations	4				
Practice for Unix commands	6				
Practice for vi editor	6				
Practice for shell programs using conditional, looping instructions and shell features	10				
Practice for finding files	6				
Practice for user management	6				
Practice for file system checking	4				
Practice for Compressing file	4				
Practice for user authentication and access rights	4				
Revision	6				
TOTAL	60				

GOVERNMENT POLYTECHNIC COLLEGE, KOTA (RAJ.)

SYLLABUS BREAK-UP (SESSION 2015-16)

SUBJECT CODE : **CS304**

SUBJECT NAME : **SOFTWARE ENGINEERING**

FACULTY NAME : **RAJESH CHANDRA DADHICH**

DESIGNATION : **LECTURER (SELECTION SCALE)**

TOPIC	LECTURE / PRACTICAL CLASSES REQUIRE	MONTHS IN WHICH THE TOPIC WILL BE	ACTUAL DATE OF COVERING OF THE TOPIC	REASON FOR NOT COVERING THE TOPIC IN DUE TIME	E-CONTENTS PROVIDED TO STUDENTS RELATED TO TOPIC
Program and Software Products, Software Characteristics	2	Aug			
Software Crisis, Software metrics	2	Sept			
Software Engineering evolution and impact, Emergence of Software Engineering	2	Sept			
Why use life cycle models?, Waterfall model	2	Sept			
Prototyping Model, Evolutionary Model	2	Sept			
Spiral Model, Comparison of different Life Cycle Model	2	Oct			
Requirement Gathering Methods and Analysis, Feasibility Study	2	Oct			
Software Requirement Specification (SRS) and its contents, Characteristics of good SRS documents, Organization of SRS document	2	Oct			
Techniques for representing complex logic: Decision Tree, Decision Table	2	Nov			
What is good Software design?, Concept of Cohesion and Coupling	2	Nov			
Classification of cohesiveness, Classification of coupling	2	Nov			
Software Design Approaches: Function oriented and object oriented approaches	2	Dec			
Overview of SA/SD Methodology, Structure analysis	2	Dec			
Data Flow Diagram (DFD): Primitive Symbols used for constructing DFD, Context diagram, Level 1 DFD, Numbering of Bubbles	2	Dec			
Data Flow Diagram (DFD)- Developing DFD Model of a system, Balancing DFD, Decomposition, Common errors constructing DFD and shortcomings	2	Jan			
Data Dictionary, Structure Design, Detailed design	2	Jan			
Structure Chart, Transformation of DFD model into structure chart	2	Jan			
Software Testing: what is testing?, Verification v/s Validation, Level of Testing, Unit Testing	2	Jan			
Design of Test Cases: Black box testing - Equivalence Class Partitioning, Boundary Value Analysis	2	Feb			

Design of test cases: White box testing-Statement, Branch coverage,Path coverage, McCabe's Cyclomatic Metrics	2	Feb			
Integration Testing, System Testing	2	Feb			
Software Reliability: Hardware v/s software reliability, Reliability metrics	2	Feb			
Software quality, Software quality system,	2	Mar			
ISO 9000 : what? ,requirements, standards for software, how to get?, shortcomings	2	Mar			
SEI Capability Maturity Model (SEI CMM), Six sigma	2	Mar			
Review and doubt classes	10	Mar-Apr			
TOTAL	60				