REGIONAL INSTITUTE OF PARAMEDICAL AND NURSING SCIENCES

COURSE CARRICULUMN OF INFORMATION TECHNOLOGY

All Departments in RIPANS

PREPARED BY: VANLALCHUNGLURA

Contents

DEPARTMENT OF RADIO IMAGING TECHNOLOGY

Course No: BMRIT/102T

Course Title: Information Technology

Credit: 3 (2-1-0)

UNIT	TOPICS	Hours
I	Introduction to computer: Introduction, characteristics of computer, block diagram of computer, Basic Applications of Computer Components of Computer System: Central Processing Unit, storage devices, Input devices (keyboard, point and draw devices, data scanning devices, digitizer, electronic card reader, voice recognition devices, vision-input devices), output devices (monitors, pointers, plotters, screen image projector, voice response systems)	9
II	Operating system, Types of Operating system. Basics of popular operating system (LINUX, WINDOWS) The User Interface, Task Bar, Icons, Start Menu, Running an Application, Operating System Simple Setting, Changing System Date And Time, Changing Display Properties, To Add Or Remove A Windows Component, Changing Mouse Properties, Installation of software, Adding and removing Printers, File and Directory Management Concept of Hardware and Software, Representation of Data/Information, Concept of Data processing, Applications of IECT , e-governance	9
III	Introduction to MS-Word: introduction, components of a word window, creating, opening and inserting files, editing a document file, page setting and formatting the text, saving the document, spell checking, printing the document file, creating and editing of table, mail merge. Introduction to Introduction to MS-Excel: introduction, about worksheet, entering information, saving workbooks and formatting, printing the worksheet, creating graphs. Introduction to MS-power-point: introduction, creating and manipulating presentation, views, formatting and enhancing text, slide with graphs.	9
IV	Basics of Computer Networks, Local Area Network (LAN), Wide Area Network (WAN), Concept of Internet, Basics of Internet Architecture, Services on Internet, World Wide Web and Websites, Communication on Lecture 2 Internet, file sharing, Hospital Network, Application of Computers in clinical settings. Introduction to cybersecurity, cloud computing, cloud storage etc.	9
V	Web Browsing Software, Popular Web Browsing Software, Configuring Web Browser, Search Engines, Popular Search Engines / Search for content , Accessing Web Browser, Using Favourites Folder, Downloading Web Pages, Printing Web Pages Basics of E-mail, Email Addressing, Configuring Email Client, Using Emails, Opening Email Client, Mailbox: Inbox and Outbox, Creating and Sending a new E-mail, Replying to an E-mail 9 22 BMRIT-RIPANS message, Sorting and Searching emails, Advance email features, Sending document by Email, Activating Spell checking, Sending Softcopy as attachment, Handling SPAM	9

PRACTICAL BMRIT

Course No: BMRIT/111P

Course Title: Information Technology

Credit: 1 (0-0-1) Practical will include the following and additional as prescribed to cover all theoretical aspects 1. MS-word 2. MS- Excel 3. MS- PowerPoint 4. Cloud Computing, data entry efficiency, etc. 5. Exposure to servers – offline and online, etc. 6. Presentation on related topics

DEPARTMENT OF MEDICAL LABORATORY SCIENCE

COURSE No: BMLS-102:

Course Title: Basic computers and information science

Credit: 2

UNIT	TOPICS	Hours
I	Introduction to computer: Introduction, characteristics of computer, block diagram of computer, generations of computer, computer languages. Input output devices: Input devices (keyboard, point and draw devices, data scanning devices, digitizer, electronic card reader, voice recognition devices, vision-input devices), output devices (monitors, pointers, plotters, screen image projector, voice responsesystems).	**7**
II	Processor and memory: The Central Processing Unit (CPU), main memory. Storage Devices: Sequential and direct access devices, magnetic tape, magnetic disk, optical disk, mass storage devices.	**6**
III	Introduction of Operating System: introduction, operating system concepts, types of operating system Introduction of windows: History, features, desktop, taskbar, icons on the desktop, operation with folder, creating shortcuts, operation with windows (opening, closing, moving, resizing, minimizing and maximizing, etc.).	**6**
IV	Introduction to MS-Word: introduction, components of a word window, creating, opening and inserting files, editing a document file, page setting and formatting the text,saving the document, spell checking, printing the document file, creating and editing oftable, mail merge. Introduction to Excel: introduction, about worksheet, entering information, saving workbooks and formatting, printing the worksheet, creating graphs. Introduction to power-point: introduction, creating and manipulating presentation, views,formatting and enhancing text, slide with graphs.	**9**
V	Computer networks: introduction, types of networks (LAN, MAN, WAN, Internet, Intranet), network topologies (star, ring, bus, mesh, tree, hybrid), components of network. Internet and its Applications: definition, brief history, basic services (E-Mail, File Transfer Protocol, telnet, the World Wide Web (WWW)), www browsers, use of the internet.	**7**
VI	Application of Computers in clinical settings.	**6**

BMLS-111: Basic computers and Information Science-Practical

Credit: 3

Practical on fundamentals of computers -

1. Demonstration of basic hardware of the computers and laptops
2. Learning to use MS office: MS word, MS PowerPoint, MS Excel
3. To install different software
4. Data entry efficiency

DEPARTMENT OF OPTOMETRY

Course No.: BO/I/ITT

Name of Paper: Information Technology Paper No.: I

Mark Scale: 100

Credit: 2

UNIT	TOPICS	Hours
I	Introduction to Computer: Characteristics of Computer, Basic Computers Organization, Computer generations, Classifications of Computers, Hardware and Software, Computer Languages.	6
II	Operating System: Definition, Functions and its type - Batch, Multiprogramming, Time sharing, Real time Operating systems. MS DOS Basic, Working with files, file management Commands, Utility Commands, internal and external DOS commands. Windows Basic, the Desktop, Control Panel, Windows Accessories.	6
III	Introduction to Word Processing using MS Word – create, formatting and editing, save document, cut, copy and paste perform operations on blocks of text, header and footer, handling graphics, working with tables, Mail Merge, Printing of a document. Introduction to Spreadsheet using MS Excel - Concept of worksheet, Cell formatting. Cell referencing, Excel formulas and functions, making Charts and Graphs, Printing of worksheets. Introduction to Presentation using MS PowerPoint - Concept and importance of presentation, making slide show, Slide Layout, Slide Transition, Custom animation.	9
IV	Introduction to Database using MS Access: Concept of Database, Seven main objects in Microsoft Access, database creation and manipulation. Multimedia: Definition, components and applications.	7
V	Computer Networks: Networking Concepts, Advantages and Disadvantages, Types of Networks – LAN, WAN, MAN, Internet - Basic concepts and applications, email. Computer Maintenance and Security: Maintenance of Hardware & Software, Overview of Computer Viruses.	7

PRACTICAL OPTOMETRY

Course No.: BO/I/ITP

Name of Paper: Information Technology Paper No.: I

Mark Scale: 100 Credit: 3

1. Basic DOS Operation.
2. Operating computer using GUI based Operating System.
3. Word processing.
4. Mail Merge application.
5. Spread sheet application.
6. Application of formula &functions in Electronic Spreadsheet.
7. Chart preparation using Spreadsheet.
8. Preparation of presentation.
9. Database table creation and manipulation.
10. Basic Internet Application

DEPARTMENT OF PHARMACY

Course No. BP205 T.

Course Name: COMPUTER APPLICATIONS IN PHARMACY (Theory)

CREDIT: 3

UNIT	TOPICS	Hours
I	Number system: Binary number system, Decimal number system, Octal number system, Hexadecimal number systems, conversion decimal to binary, binary to decimal, octal to binary etc, binary addition, binary subtraction – One's complement ,Two's complement method, binary multiplication, binary division Concept of Information Systems and Software : Information gathering, requirement and feasibility analysis, data flow diagrams, process specifications, input/output design, process life cycle, planning and managing the project	6
II	Web technologies:Introduction to HTML, XML,CSS and Programming languages, introduction to web servers and Server Products Introduction to databases, MYSQL, MS ACCESS, Pharmacy Drug database	6
III	Application of computers in Pharmacy – Drug information storage and retrieval, Pharmacokinetics, Mathematical model in Drug design, Hospital and Clinical Pharmacy, Electronic Prescribing and discharge (EP) systems, barcode medicine identification and automated dispensing of drugs, mobile technology and adherence monitoring Diagnostic System, Lab-diagnostic System, Patient Monitoring System, Pharma Information System	6
IV	Bioinformatics: Introduction, Objective of Bioinformatics, Bioinformatics Databases, Concept of Bioinformatics, Impact of Bioinformatics in Vaccine Discovery	6
V	Computers as data analysis in Preclinical development: Chromatographic dada analysis(CDS), Laboratory Information management System (LIMS) and Text Information Management System(TIMS)	6

Course Name: COMPUTER APPLICATIONS IN PHARMACY (Practical)

Course No.: BP210P.

CREDIT: 1

1. Design a questionnaire using a word processing package to gather information about a particular disease. 2. Create a HTML web page to show personal information.
3 Retrieve the information of a drug and its adverse effects using online tools
4 Creating mailing labels Using Label Wizard , generating label in MS WORD
5 Create a database in MS Access to store the patient information with the required fields Using access
6. Design a form in MS Access to view, add, delete and modify the patient record in the database
7. Generating report and printing the report from patient database
8. Creating invoice table using – MS Access
9. Drug information storage and retrieval using MS Access
10. Creating and working with queries in MS Access
11. Exporting Tables, Queries, Forms and Reports to web pages
12. Exporting Tables, Queries, Forms and Reports to XML pages

DEPARTMENT OF NURSING

HEALTH/NURSING INFORMATICS AND TECHNOLOGY
PLACEMENT: II SEMESTER
THEORY: 2 Credits (40 hours)
PRACTICAL/LAB: 1 Credit (40 hours)

UNIT	Topics	Hours	
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I	Introduction to computer applications for patient care delivery system and nursing practice • Use of computers in teaching, learning, research and nursing practice • Windows, MS office: Word, Excel, Power Point • Internet • Literature search • Statistical packages • Hospital management information system	10	15
II	**Principles of Health Informatics** • Health informatics – needs,objectives and limitations • Use of data, information and knowledge for more effective healthcare and better health	4	5
III	**Information Systems inHealthcare** • Introduction to the role and architecture of information systems in modern healthcareenvironments Clinical Information System(CIS)/Hospital information System (HIS)	3	5
IV	**Shared Care & ElectronicHealth Records** • Challenges of capturing rich patient histories in a computableform Latest global developments andstandards to enable lifelong electronic health records to be integrated from disparate systems.	4	4
V	**Patient Safety & Clinical Risk** • Relationship between patientsafety and informatics Function and application of therisk management process	3	
VI	**Clinical Knowledge & DecisionMaking** • Role of knowledge managementin improving decision-making in both the clinical and policy contexts Systematized Nomenclature of Medicine, Clinical Terms, SNOMED CT to ICD-10-CM Map, standardized nursing terminologies (NANDA, NOC),Omaha system	3	6
VII	**eHealth: Patients and theInternet** • Use of information and communication technology to improve or enable personal andpublic healthcare Introduction to public health informatics and role of nurses	3	
VIII	**Using Information in HealthcareManagement** • Components of Nursing Information system(NIS) Evaluation, analysis and presentation of healthcare datato inform decisions in the management of health-care organizations	3	5
IX	**Information Law & Governancein Clinical Practice** • Ethical-legal issues pertaining tohealthcare information in contemporary clinical practice Ethical-legal issues related to digital health applied to nursing	4	
X	**Healthcare Quality & EvidenceBased Practice** Use of scientific evidence inimproving the quality of healthcare and technical andprofessional informatics standards	3	