

Contents

<i>About the Author</i>	v
<i>Preface</i>	vii
<i>Acknowledgments</i>	ix
<i>Contributors</i>	xi
<i>Special Features of the Book</i>	xv
<i>Syllabus</i>	xix

Section I Introduction to Computer Applications for Patient Care Delivery System and Nursing Practice

Chapter 1 Use of Computers in Teaching, Learning, Research and Nursing Practice	3-10
<i>J Precilla Selvakumari</i>	
Introduction	4
Role of Computers in Teaching and Learning.....	4
Use of Computers in Learning.....	5
Use of Computers in Nursing Research.....	5
Relevance of Computers in Nursing.....	6
Chapter 2 Windows, MS Office: Word, Excel and PowerPoint	11-20
<i>L Lakshmi</i>	
Introduction	12
All about Windows	12
Microsoft Office	14
Chapter 3 Use of Internet for Literature Search	21-30
<i>L Lakshmi</i>	
Introduction	22
Internet	22
Boolean Operators	22
Literature Search	24
Chapter 4 Statistical Packages	31-36
<i>L Lakshmi</i>	
Introduction	32

Uses	32
Advantages and Disadvantages of Statistical Packages.....	32
Types of Statistical Packages	33
Chapter 5 Hospital Management Information System	37-46
<i>L Lakshmi</i>	
Introduction	38
Definition	38
Uses	38
Objectives	38
Basic Concepts of Management Information System	39
Types of Management Information System	41
Relevance of Management Information System in Nursing.....	41
Hospital Management Information System	41
Advantages and Disadvantages of Hospital Management Information System.....	44

Section II Principles of Health Informatics

Chapter 6 Health Informatics—Needs, Objectives and Limitations	49-58
<i>Prathiba S</i>	
Informatics.....	50
Health Informatics	50
Chapter 7 Use of Data, Information and Knowledge for Effective Healthcare	59-68
<i>Prathiba S</i>	
Introduction	60
Nursing Informatics.....	60
Importance of Informatics in the Healthcare Industry.....	62
National Rural Health Mission	63
Impact of Nursing Informatics in the Nursing Profession	64
Advantages of Technology in the Nursing Informatics Field	64
Disadvantages of Technology in the Nursing Informatics Field	64

Section III Information Systems in Healthcare

Chapter 8 Role and Architecture of Information Systems in Modern Healthcare	71-80
<i>Bhuvaneswari S</i>	
Healthcare Quality Information Systems	72
Hospital Information Management System	72
Architecture of Information Systems in Modern Healthcare Environments.....	73
Client-Server Configuration.....	74
Ways to Configure the Client-Server Architecture	75
Chapter 9 Clinical Information System	81-87
<i>Bhuvaneswari S</i>	
Introduction	82

Functions of Clinical Information System	82
Benefits of a Clinical Information System	82
Most Significant Clinical Information Systems	82

Section IV Shared Care and Electronic Health Records

Chapter 10 Challenges of Capturing Rich Patient's Histories	91–104
--	---------------

Dinesh M

Introduction	92
Challenges of Capturing Rich Patient's Histories in a Computable Form	92

Chapter 11 Latest Global Developments and Standards in Electronic Health Records	105–115
---	----------------

Dinesh M

Introduction	106
Global Developments in the Field of Electronic Health Records	106
Interoperability in Electronic Health Records	107
Blockchain Technology in Electronic Health Records	107
National Electronic Health Record System.....	108
Global Scenario in Development of Electronic Health Record System	109
Indian Scenario in Development of Electronic Health Record System	110
Recommended Guidelines for Electronic Health Record Systems	112

Section V Patient Safety and Clinical Risk

Chapter 12 Role of Informatics in Patient Safety	119–127
---	----------------

D Lakshmi Narayani

Introduction	120
Patient Safety.....	120
Relationship between Patient Safety and Healthcare Information Technology.....	122
Technology in Health Informatics.....	124

Chapter 13 Risk Management Process in Healthcare Facility	129–134
--	----------------

D Lakshmi Narayani

Introduction	130
Evolution of Healthcare Enterprise Risk Management	130
Key Components for Risk Management Process.....	131
Steps in Risk Management Process	132

Section VI Clinical Knowledge and Decision-Making

Chapter 14 Role of Knowledge Management for Decision-Making in Healthcare	137–147
--	----------------

Sathiyapriya V

Introduction	138
Definition	138

Various forms of Knowledge Management.....	138
Knowledge Management Methods.....	139
Knowledge Management System	139
Benefits of Knowledge Management	140
Components of Knowledge Management System.....	141
Process or Cycle for Knowledge Management.....	142
Challenges Related to Knowledge Management	142
Clinical Decision-Making Skills	143
Chapter 15 SNOMED CT to ICD-10-CM Map	149–157
<i>Sathiyapriya V</i>	
Introduction	150
SNOMED CT	150
Chapter 16 Standardized Nursing Terminologies—NANDA, NIC, NOC	159–166
<i>Sathiyapriya V</i>	
Introduction	160
North American Nursing Diagnosis Association.....	160
Nursing Interventions Classification.....	160
Nursing Outcome Classification	163
Benefits of Standard Nursing Terminologies in Nursing.....	164
Chapter 17 Omaha System	167–170
<i>Sathiyapriya V</i>	
Introduction	168
Origin of Omaha System	168
Updation of Omaha	168
Components of Omaha System	168
Uses of Omaha.....	169
Users of Omaha System	169

Section VII E-Health: Patients and the Internet

Chapter 18 Use of Information and Communication Technology in Healthcare	173–181
<i>M Manjambigai</i>	
Introduction	174
Background of Information and Communication Technology.....	174
Definition of Information and Communication Technology.....	175
Characteristics of Information and Communication Technology	175
Uses of Information and Communication Technology	176
Components of Information and Communication Technology	176
Purposes of Information and Communication Technology	177
Types of Information and Communication Technology	177
Importance of Information and Communication Technology.....	177
Skills of Information and Communication Technology	178
Pillars of Information and Communication Technology	178

Advantages of Information and Communication Technology	178
Scope of Information and Communication Technology	179
Chapter 19 Public Health Informatics and Telenursing	183–197
<i>Nancy Priscilla G</i>	
Introduction	184
Public Health Informatics.....	184
Telenursing	188

Section VIII Using Information in Healthcare Management

Chapter 20 Nursing Information System	201–207
<i>Thivya N</i>	
Introduction	202
Nursing Information System	202
Purposes	202
Components.....	202
Examples of Nursing Information System	203
Nursing Information System versus Emerging Roles of Nurses	204
Challenges to Nursing Information System	204
Chapter 21 Healthcare Data in the Management of Healthcare Organizations	209–215
<i>Thivya N</i>	
Introduction	210
Data	210
Information Cycle.....	212
Reasons for Informing Healthcare Data Decisions in the Management of Healthcare Organizations.....	213
Ten Essential Healthcare Performance Measurements	213

Section IX Information Law and Governance in Clinical Practice

Chapter 22 Ethical-Legal Issues in Contemporary Clinical Practice	219–226
<i>L Lakshmi</i>	
Introduction	220
Information Law	220
Information Technology Act, 2000	221
Clinical Governance	221
Information Governance	223
Data Governance	224
Chapter 23 Ethical-Legal Issues in Digital Health Applied to Nursing	227–233
<i>L Lakshmi</i>	
Digital Health	228
Guiding Principles for Implementation	229

Framework for Action for Implementation	229
Digital Health in Nursing	230
Legal Issues in Digital Health in Nursing	231

Section X Healthcare Quality and Evidence-Based Practice

Chapter 24 Professional Informatics Standards in Nursing	237-244
<i>Trupti Rekha Pradhan</i>	
Introduction	238
Use of Scientific Evidence to Improve Quality of Healthcare	238
Technical and Professional Informatics Standards	239
Competencies of Nursing Informatics Specialists	241
Importance of Nursing Informatics	241
Chapter 25 Use of Evidence-Based Practice to Improve Quality of Healthcare	245-252
<i>Trupti Rekha Pradhan</i>	
Introduction	246
Quality Healthcare	246
Evidence-Based Nursing Practice	248
<i>Index</i>	253