

University of Gour Banga

Three-year B.Sc. (Honours) Courses of Studies in Computer Science with lesson plan and references

Computer Science Honours Course Structure

Paper	Group	Title	Lesson Plan	References
<u>PART - I</u>				
I	A	Computer Fundamentals	Link1 Link2	1. Introduction to Computer Science, by P.K.Sinha (PHI)
	B	Introduction to Basic Electronics	Link	1.Electronics Fundamentals and Applications by D.Chattopadhyay and P.C.Rakshit, 6 th Edition, New Age International (P)
	C	Digital System Design	Link	1.Digital Logic and Computer Design by M.Morris Mano, PHI 2.Digital Principle and Applications by Malvino & Leach, TMH 3.Digital Systems Principles and Applications by Ronal J. Tocci and Neal S. Widmer, 8 th Edition, PHI 4.Digital Fundamentals by Floyd, Pearson Education
	D	Computer Organization-I	Link	1. Computer Architecture and Organizations 2 nd Edition, J. P. Hayes, TMH 2.Computer System Architecture by M. Morris Mano 3.Computer Organization and Architecture by William Stallings, Pearson Education
II	A	Data Structure-I	Link	1.Data Structure by Ellis Horowitz, Sartaz Sahani, Galgotia 2.Data Structure Using C by S. K. Bandyopadhyay and K. N. Dey, Pearson Education 3.Data Structures and Algorithm Analysis in C by Mark Allen Weiss, 2 nd Edition, Pearson Education
	B	Programming through C Language	Link	1.C Programming by Karnighan,&Ritchie, PHI 2.Programming through C by Richard Johnsonbaugh and Martin Kalin, Pearson Education 3.A Book on C by Kelley and Pohl, Pearson Education

III	A	Hardware- Digital Practical	Link	1.Electronics Devices and Circuit Theory by Boylestad, Nashelsky, PHI
<u>PART - II</u>				
IV	A	Graph Theory	Link	1. Graph Theory by Narsingh Deo, PHI 2. Introduction to Graph Theory by D B West, 2 nd edition, Pearson Education
	B	Discrete Mathematical Structures	Link	1. Discrete Mathematics and its applications by Rosen, 5 th Edition, TMH 2. Discrete Mathematics by C.L.Liu, TMH
	C	Numerical and Optimization Techniques	Link	1. Numerical Methods for Scientific and Engineering Computation by M.K.Jain, S.R.K.Iyengar, 2.Computer Oriented Numerical Methods, 3 rd Edition, V Rajaraman, PHI 3. Operations Research by Kanti Swarup, P.K. Gupta, Sultan Chand & Sons 4. Operations Research Techniques for Management by V.K.Kapoor, 7 th Edition, Sultan Chand & Sons
	D	Formal Languages and Automata Theory	Link	1.Switching and Finite Automata Theory by Kohavi, TMH 2.Theory of Computer Science(Automata, Languages & Computation) by K L P Misra & N Chandrasekharan, PHI
V	A	Data Structure -II	Link	References of Data Structure is given previously
	B	System Software and Operating Systems	Link1 Link2	1.Operating Systems by H.M.Deitel, 2 nd Edition, Pearson Education 2.Operating System Concepts, A.Silberschatz, Peter B. Galvin, G. Gagne, 6th Edition, John Wiley & Sons, Inc.
VI	A	DOS Commands	Link	1.DOS: Disk Operating System by Dr. Suhas Rokde
	B	Programming Through C Language	Link	References of C programming is given previously
<u>PART - III</u>				
VII	A	Microprocessor	Link	1.Introduction to Microprocessor by Gonakar, PHI 2.Introduction to Microprocessor by

				Ajit Pal, PHI
	B	Computer Organization-II	Link	1. Computer Architecture and Organizations 2 nd Edition, J. P. Hayes, TMH 2. Computer System Architecture by M. Morris Mano 3. Computer Organization and Architecture by William Stallings, Pearson Education
	C	Data Communication & computer Networks	Link	1. Data Communications and Networking by Behrouz A. Forouzan, 4 th Edition, TMH 2. Data and Computer communication by William Stallings, 6 th Edition, Pearson Education 3. Computer Networks by Tanenbaum, Pearson Education
VIII	A	Object-Oriented Programming (C++)	Link	1. Object Oriented Programming with C++ by Balagurusamy, TMH 2. Object Oriented Programming with C++ by Robert Lafore, PHI
	B	Software Engineering	Link	1. An Integrated Approach to Software Engineering by Pankaj Jalote, Narosa Publishing House 2. Introduction to System Analysis and Design by Igor Hawryszkiewicz, PHI
	C	Database Management Systems	Link	1. Database System Design by Elmasri, Navathe, Somayajulu, Gupta, Pearson Education 2. Database Systems: Concept, Design and Application by S. K. Singh, Pearson Education, 1 st Edition 3. An Introduction to Database Systems by C.J. Date, A.Kannan, S.Swamynathan, Pearson Education
	D	Computer Graphics	Link	1. Fundamental of Computer Graphics and Multimedia by D. P. Mukherjee, PHI 2. Computer Graphics by Hearn and Baker, PHI
IX	A	Object-Oriented Programming (C++)	Link	References of C++ is given previously

	B	RDBMS	Link	Relational Database Design by Jan L. Harrington, an imprint of Elsevier
	C	Shell Programming	Link	1. UNIX concepts and applications by Sumitabha Das, TATA McGraw-Hill 2. UNIX and Shell programming by Archana Barman, Laxmi Publication 3. UNIX shell programming by Yashavant Kanitkatr, BPB Publication 4. UNIX and Shell programming: A text book by Richard F. Gilberg,
X	A	Hardware: Microprocessor Programming	Link	References of Microprocessor is given previously
	B	Project		