SURESH GYAN VIHAR UNIVERSITY

Accredited with "A+"Grade by NAAC

DATA COMMUNICATION & NETWORKING

DCA-502

MCA SEM-II

COURSE DESIGN, PREPARATION AND REVIEW TEAM

Prof. T.K. Jain
Director,
CDOE SGVU Jaipur

Dr. Ankur Jain,
Director,
CIQA, SGVU Jaipur

Prof. P.K. Sharma
Rtd. Professor
VMOU Kota

Dr. Manish Sharma,
Professor,
GVSET, SGVU Jaipur

Dr. Ajay Vardhan
Regional Director
IGNOU Aligarh(UP)

Dr. Kriti Shrivastav
Assistant Professor
CIQA SGVU Jaipur

Ms. Sonika Katta,
Assistant Professor,
GVSET, SGVU Jaipur

Dr. Amit Sharma*
Associate Professor
CDOE SGVU Jaipur

Dr. Ranjan Upadhyaya, Professor,
Department of Management Studies,
Vivekananda Global University, Jaipur

Mr. Ashok Kumar,
Assistant Professor,
GVSET, SGVU Jaipur

Dr. Vijay Sharma, HOD, Centre for Rural Empowerment and Development,
Government Engineering College, Bikaner

Ms. Kriti Sanadhya,
Assistant Professor,
School of Law, SGVU Jaipur

Dr. Vishal Goar
Dean Research
Bikaner Technical University, Bikaner .

Dr. Lata Suresh,
Director, Indian Institute of Corporate Affairs, (Ministry of Corporate Affairs)
Gurugram

Program Coordinator	**Course Coordinator and editor**
Dr. Sohit Agarwal Assistant Professor CDOE SGVU Jaipur	Dr. Aman Sharma*, Assistant Professor, CDOE, SGVU

Acknowledgement : The persons marked with (*) are the authors

PRINT PRODUCTION

Mahendra Sharma
Assistant Registrar
SGVU Jaipur

Published in: November, 2024

ISBN (Awaited)

Published by:

S. B. Prakashan Pvt. Ltd.
WZ-6, Lajwanti Garden, New Delhi: 110046 Tel.: (011) 28520627 | Ph.: 9625993408
Email: info@sbprakashan.com | Web.: www.sbprakashan.com

BLOCK 1 **Fundamentals of Computer Network**	**1**
BLOCK 2 **Data Communication and Switching Techniques**	**119**
BLOCK 3 **Wireless Communications, Error Detection& Correction**	**170**
BLOCK 4 **OSI and TCP/IP model**	**222**
BLOCK 5 **Network Security**	**264**

Learning Map

Course Credit- 4

Content	Course Credit	Page No
BLOCK 1 Fundamentals of Computer Network	**0.8**	**1**
Unit 1: Introduction to Data Communication		**2**
Unit 2: Networking		**25**
Unit 3: Transmission Media		**55**
Unit 4: Network topology		**73**
Unit 5: Transmission modes		**85**
BLOCK 2 Data Communication and Switching Techniques	**0.8**	**95**
Unit 6: Multiplexing		**96**
Unit 7: Circuit Switching		**112**
Unit 8: Packet Switching		**138**
BLOCK 3 Tree Data Structures	**0.8**	**170**
Unit 9: Error Detection& Correction		**187**
Unit 10: Mobile Generations		**207**
Unit 11: Bluetooth		**216**
BLOCK 4 OSI and TCP/IP model	**0.8**	**222**
Unit 12: OSI Reference Model		**246**
Unit 13: TCP/IP Model Introduction to Modes of Transfer, Priority Interrupt,		
BLOCK 5 Network Security	**0.8**	**264**
Unit 14: Firewall		**265**
Unit 15: Encryption and Decryption		**281**

Prior Learning

The Learner should have fundamental understanding of Mathematics and Computer Application